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Minerals in the World Economy

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Minerals in the World Economy

By Charles L. Kimbell[1] and William L. Zajac[2]

The world mineral industry in 1984 continued its recovery from the very poor times of 1981, 1982, and early 1983, with most standard gauges of activity registering gains, but 1984 performance in most areas still fell short of the historic highs of 1979 and 1980. Furthermore, the prospects for the immediate future were somewhat less than ideal in comparison with the outlook for other sectors of the economy. There were upturns in production, trade, and consumption of many mineral commodities, but in contrast with that of 1983, when there were a number of modest price advances, 1984 saw small drops to significant drops in prices for a number of commodities, most notably copper, gold, crude oil, and silver. Similarly, investment in mineral industry ventures seemed restrained, probably largely as a result of the apparent opportunity for greater gains from investment in other sectors of the economy, coupled with the continued existence of substantial amounts of idle productive capacity in existing plants.

A glut in world oil supplies continued through the year, and there seemed little chance for an alteration of this situation in 1985 as the developing world producers individually strove to maximize their own incomes, many of them forced into this type of action because of rising foreign exchange debts. These rising debts also contributed to restriction of investments in some world areas. In developed market economy countries, development activities relating to mines and plants emphasized the substitution of new, more efficient installations for old uneconomic or marginally profitable facilities. In the centrally planned economy countries, new additional capacity for mining and processing of minerals continued to come on-stream, but the growth in effective capacity fell short of plans in many instances, often as the result of both overly optimistic time schedules and the inability of the new facilities to reach design capacities as a result of technical problems.

International political events, most notably the continuing Iran-Iraq war, and the unstable situation in the eastern Mediterranean countries (Israel, Lebanon, and Syria) continued to adversely affect mineral industry performance there, although some gains in output levels were discerned in Iran and Iraq. The hostilities between these countries caused considerable worry to tanker operators in the Persian Gulf, with several vessels being damaged and one sunk. Aircraft of both countries attacked vessels registered in other countries over the course of the year, but despite these attacks, tankers continued to move oil out of the gulf throughout the year. In Central America, continued internal and international problems continued to adversely affect mineral industry operations, and in Afghanistan, continued confrontations between the local citizenry and the occupying Soviet troops made development work outside of major cities hazardous if not impossible.

PRODUCTION

The estimated value of world crude mineral production in 1984 was $518,900 million in terms of constant 1978 dollars, 3% higher than the revised 1983 level, but still far short of the historic high of 1979, as can be seen in the following tabulation:

Year	Billion constant 1978 dollars	
	Value of 53[1] major crude mineral commodities[2]	Value of all crude mineral commodities[3]
1950	67.8	77.2
1953	88.5	101.7
1958	113.6	136.5
1963	125.7	154.0
1968	145.6	176.5
1973	234.0	281.6
1978	478.9	539.7
1979[r]	525.2	591.9
1980[r]	514.4	579.7
1981[r]	489.7	551.9
1982[r]	449.1	506.1
1983[r]	446.0	502.6
1984	460.4	518.9

[r]Revised.
[1]The list of commodities included appears in table 3 in the 1980 edition of this chapter; one commodity covered in 1950-68 (beryl) is excluded from the 1973-84 figures, but the overall impact of this omission is regarded as insignificant.
[2]Data for all years prior to 1979 are as reported in Annales des Mines, Nov.-Dec. 1980, p. 173; data for 1979-84 are extrapolated from the 1978 Annales des Mines figures on the basis of the United Nations index of extractive industry production, which is given in the United Nations Monthly Bulletin of Statistics, Aug. 1985, p. xiv.
[3]Data extrapolated from values of 53 commodities to compensate for other mineral products. For details on the basis for this extrapolation, see accompanying text under "Value of World Mineral Production" in the 1980 edition of this chapter.

The foregoing data on value of crude mineral output fall far short of accurately portraying the role of the whole mineral industry in the world's economy, in that they represent only the value of those materials as they are extracted from the earth, rather than the considerably enhanced value that results from beneficiation, smelting, refining, and other equivalent downstream processing to which those raw materials are subjected while they remain within the facilities that are commonly accepted to be mineral industry plants. Comprehensive data on the value added by such downstream processing are not available on a worldwide basis, but a total on the order of $1,220,000 million (constant 1978 dollars) for 1984 would be a conservative estimate of the value of the products of the world's mineral industry plants that were derived wholly from primary or newly mined raw material only. To this, an additional unestimated increment should be added for processed minerals and metals derived from secondary raw materials—scrap and other reclaimed materials.

It should be stressed that crude and processed mineral commodities constitute not only the overwhelmingly dominant share of the total raw material supply for all manufacturing operations but also, in the form of fertilizers, are an essential raw material to ensure continued high production by the agricultural-forestry sector. Moreover, the mineral industry, through its output of the various fuel materials, provides all significant supplies of energy for the transportation and transformation of crude nonfuel minerals to finished industrial and consumer goods, as well as for the transportation and transformation of all nonmineral raw materials and products.

PRODUCTION INDEX PATTERNS

The following tabulation summarizes the development pattern in world extractive mineral industry output as reflected by United Nations indexes:

Year	Index numbers (1980=100)			
	Coal	Crude petroleum and natural gas	Metals	Extractive industry total
Annual averages:				
1978	93.7	92.4	95.2	93.1
1979	96.8	104.0	98.1	102.1
1981	100.3	92.7	100.4	95.2
1982	102.1	82.4	94.2	87.3
1983	101.4	81.8	91.1	86.7
1984	99.4	85.4	93.2	89.5
Quarterly results:				
1983:				
1st quarter	103.1	75.3	89.1	82.0
2d quarter	101.0	75.1	92.9	82.3
3d quarter	98.3	85.0	89.6	88.3
4th quarter	103.1	91.8	92.6	94.0
1984:				
1st quarter	104.5	81.2	94.6	87.0
2d quarter	.6	75.1	94.8	82.7
3d quarter	98.9	89.3	91.0	91.8
4th quarter	96.6	96.1	92.5	96.4

Source: United Nations. Monthly Bulletin of Statistics. V. 39, No. 8, Aug. 1984, p. xiv.

The index figures reported in the foregoing tabulation are in terms of a base year of 1980 and, as such, do not correspond directly to those presented in the previous edition of this chapter, for which the base year was 1975.

Clearly, although there were marked differences in the performance of the three major component sectors of the extractive industry through late 1983 and through 1984, there was an overall improvement for the extractive industry as a whole, with a downturn in early 1984 that was more than compensated by results in the second half of the year. The reported 1984 annual average and quarterly data beyond the first quarter for coal seem unduly low in comparison with quantitative data on coal industry activities compiled by the U.S. Bureau of Mines and presented subsequently in this chapter. It appears possible that these low figures may be the result of incomplete and/or erroneous reporting to the United Nations.

Comparison of the foregoing tabulation of extractive industry indexes with the following tabulation of indexes from the same source for the processing sectors of the mineral industry demonstrates that the processing sectors have in general recovered from the slump of 1980-82 more effectively than did the extractive sectors:

Year	Index numbers (1980=100)		
	Nonmetallic mineral products	Chemicals, petroleum, coal, rubber products	Base metals
Annual averages:			
1978	95.8	95.6	99.9
1979	99.6	100.6	104.5
1981	97.9	100.6	99.2
1982	94.6	99.5	88.9
1983	97.1	104.5	91.4
1984	101.0	110.7	97.9
Quarterly results:			
1983:			
1st quarter	91.7	102.6	89.5
2d quarter	100.5	106.1	93.5
3d quarter	98.0	102.9	88.2
4th quarter	98.4	106.3	94.4
1984:			
1st quarter	96.8	110.9	100.3
2d quarter	104.1	111.8	101.1
3d quarter	101.5	109.3	93.2
4th quarter	101.5	111.0	96.9

Source: United Nations. Monthly Bulletin of Statistics. V. 39, No. 8, Aug. 1984, p. xv.

The slump in the index for base metals in the latter half of 1984 seems noteworthy.

Both of the foregoing tabulations of indexes reflect the aggregation of results from many world areas that individually showed quite variable results, both from area to area and across the year 1984 from quarter to quarter. For regional details too extensive to include here, the reader is referred to the source publication for these tabulations.

QUANTITATIVE COMMODITY OUTPUT

Of the 97 distinct mineral commodities and/or forms of mineral commodities for which total world production, as measured by the U.S. Bureau of Mines, is presented in table 1 for 1980-84,[3] 76 registered increases in 1984 relative to the 1983 level of production. Of the remainder, 19 registered declines and 2 were unchanged relative to the 1983 performance. This was a substantial improvement over that of 1983, when gains over the 1982 performance levels were achieved by 51 commodities with 45 registering declines, and over that of 1982, when only 27 commodities exceeded 1981 levels, with 69 recording declines.

Of the 76 commodities showing gains in output between 1983 and 1984, 34 registered declines between 1982 and 1983, 31 showed increases for the second year in a row, 4 registered increases for the third consecutive year, 4 recorded increases for the fourth consecutive year, and 3 showed increases for the fifth consecutive year. Of the 19 commodities recording declines, 10 had recorded gains between 1982 and 1983, 2 recorded declines for a second year, 3 registered declines for a third year, and 4 showed lower output levels for a fourth consecutive year. Of the 2 commodities with no gain or loss registered between 1983 and 1984, 1 showed a decline between 1982 and 1983, and the other showed no change.

Of the 50 listed metallic commodities, 40 were produced in greater quantities in 1984 than in 1983, while only 10 registered declines. Aside from downturns in beryl concentrate, secondary smelter and secondary refined copper, mine lead, primary smelter and primary refined lead, mercury, mine and smelter tin, and uranium, all metals showed gains, many of them significant, and 42 of them recording increases for a second year or more. Gains were shared between the 27 metallic mine products and the 23 processed metallic commodities listed: 20 of the former and 18 of the latter recorded gains.

Of the 36 nonmetallic commodities surveyed, 26 showed gains between 1983 and 1984, 9 recorded declines, and 1 registered an output equal to that of 1983. Virtually all major nonmetals showed gains, including cement, nitrogen, phosphate rock, potash, salt, and total sulfur (a decline in sulfur in pyrite being more than offset by increases in elemental and byproduct sulfur). Feldspar and magnesite were the most significant nonmetals in the small group recording declines.

Of the 11 mineral fuel commodities surveyed (excluding uranium, which is included under metals), 9 recorded gains, with only natural gas liquids registering a decline and production of nonmetallurgical coke remaining unchanged. Even crude oil, which showed declines since 1979, registered a gain, but it was an increase of under 2%.

The overall performance of the nonfuel mineral industry can only be summarized in terms of the value of production, and for these commodities, exactitudes on worldwide value on a commodity-by-commodity basis are not available for any year subsequent to 1978. Among the fuel commodities, however, the overall pattern of output change can be demonstrated using United Nations data, in which all fuels are adjusted to a common energy equivalent basis. The following tabulation summarizes world energy commodity output for 1979-83 as reported by the United Nations, with U.S. Bureau of Mines estimates for 1984:

Year	Million metric tons of standard coal equivalent				
	Coal	Crude petroleum and natural gas liquids	Natural gas	Hydro and nuclear electricity	Total[1]
1979	2,583	4,718	1,855	288	9,445
1980	r2,626	r4,497	r1,840	301	r9,265
1981	r2,632	4,247	r1,861	320	r9,062
1982	r2,707	r4,080	r1,865	334	r8,986
1983	2,710	4,043	1,858	359	8,968
1984e	2,828	4,114	1,981	386	9,309

eEstimated. rRevised.
[1]Data may not add to totals shown because of independent rounding.

Sources: 1979—United Nations. 1982 Energy Statistics Yearbook. New York, 1984, p. 2; 1980-83—United Nations. 1983 Energy Statistics Yearbook. New York, 1985, p. 2; and 1984—U.S. Bureau of Mines estimates.

Table 1.—World production of major mineral commodities[1]

Commodity	1980	1981	1982	1983[p]	1984[e]
METALS					
Aluminum:					
Bauxite, gross weight[2] thousand metric tons	90,800	87,006	79,724	80,446	86,250
Alumina, gross weight do	33,382	32,076	28,007	29,518	32,980
Unalloyed ingot metal do	15,383	15,083	13,455	13,945	15,521
Antimony, mine output, metal content metric tons	63,619	57,687	55,323	50,536	53,470
Arsenic, white[3 4] do	31,199	30,870	29,625	26,210	32,674
Beryl concentrate, gross weight[3 4] do	9,303	9,582	8,036	9,366	8,763
Bismuth[3] do	3,608	3,750	3,961	3,824	3,935
Cadmium, smelter do	18,238	17,381	16,378	16,725	17,687
Chromite, gross weight[4] thousand metric tons	9,902	9,275	8,340	8,516	9,500
Cobalt:					
Mine output, metal content metric tons	31,329	30,744	24,298	20,048	30,965
Metal, refined do	30,252	25,825	19,312	17,597	22,229
Columbium-tantalum concentrate[4 5] do	36,657	35,533	25,401	21,176	21,443
Copper:					
Mine output, metal content thousand metric tons	7,404	7,814	7,583	7,625	7,838
Metal:					
Smelter:					
Primary[6] do	7,146	7,488	7,364	7,498	7,688
Secondary[7] do	504	513	546	593	570
Refined:					
Primary[6] do	7,529	7,903	7,720	7,893	8,051
Secondary[7] do	1,340	1,268	1,257	1,224	1,104
Gold, mine output, metal content thousand troy ounces	39,179	41,257	43,083	44,882	46,035
Iron and steel:					
Iron ore, iron ore concentrates, iron ore agglomerates, gross weight thousand metric tons	891,129	856,609	779,692	735,358	799,667
Metal:					
Pig iron do	514,056	502,245	457,541	463,123	489,169
Ferroalloys do	15,946	15,044	13,745	13,613	15,069
Steel, crude do	716,512	707,252	644,054	662,587	706,352
Lead:					
Mine output, metal content do	3,470	3,370	3,442	3,366	3,190
Metal:					
Smelter:					
Primary[6] do	3,181	3,120	3,186	3,230	3,132
Secondary[7] do	2,217	2,256	2,109	2,037	2,186
Refined:					
Primary[6] do	3,169	3,127	3,170	3,231	3,153
Secondary[7] do	2,260	2,212	2,059	2,023	2,136
Magnesium metal, smelter, primary[8] metric tons	316,099	305,226	251,357	259,898	324,404
Manganese ore, gross weight thousand metric tons	26,388	23,492	24,126	21,857	23,023
Mercury, mine output, metal content 76-pound flasks	197,426	210,897	197,933	180,824	174,488
Molybdenum, mine output, metal content metric tons	110,565	108,868	97,432	63,637	94,649
Monazite concentrate (source of rare-earth metals and thorium) do	20,619	19,608	16,410	25,892	26,555
Nickel:					
Mine output, metal content thousand metric tons	779	730	612	657	745
Metal, smelter do	731	692	577	640	684
Platinum-group metals, mine output thousand troy ounces	6,848	6,931	6,424	6,524	7,053
Selenium, smelter[4 5] metric tons	1,276	1,275	1,132	1,321	1,340
Silver, mine output, metal content thousand troy ounces	342,804	359,571	381,533	392,268	398,554
Tellurium, smelter[3 4 5] metric tons	110	105	102	86	98
Tin:					
Mine output, metal content do	244,726	251,939	236,052	210,653	207,842
Metal, smelter do	250,594	249,918	234,741	211,756	209,049
Titanium concentrate, gross weight:					
Ilmenite[4 9] thousand metric tons	3,726	3,650	3,030	2,691	2,888
Rutile[3 4] do	436	362	340	318	355
Titaniferous slag do	1,192	1,129	1,050	1,052	1,143
Tungsten, mine output, metal content metric tons	51,895	49,088	45,686	39,430	44,939
Uranium oxide, mine output, U_3O_8 content[4 5] do	53,158	51,712	43,835	40,855	37,790
Vanadium, mine output, metal content do	36,751	36,052	33,276	27,994	32,139

See footnotes at end of table.

Table 1.—World production of major mineral commodities[1] —Continued

Commodity	1980	1981	1982	1983[p]	1984[e]
METALS —Continued					
Zinc:					
Mine output, metal content thousand metric tons	5,954	5,845	6,054	6,160	6,419
Metal, smelter:					
Primary[6] do	5,755	5,761	5,502	5,841	6,085
Secondary[7] do	294	324	359	360	362
Zirconium concentrate[3] do	680	645	711	640	674
NONMETALS					
Asbestos do	4,699	4,348	4,015	4,207	4,263
Barite do	7,495	8,215	7,280	5,430	5,727
Boron minerals do	2,610	2,558	2,271	2,209	2,306
Bromine[4] do	343	344	375	358	388
Cement, hydraulic do	883,106	886,484	882,236	914,822	960,456
Clays:[4]					
Bentonite[5] do	6,427	6,854	5,208	5,178	5,433
Fuller's earth[5] do	1,762	1,921	2,010	2,257	2,291
Kaolin do	21,097	20,985	19,504	19,645	22,043
Corundum, natural metric tons	29,081	22,420	18,796	18,231	17,805
Diamond:[4]					
Gem[8] thousand carats	10,446	10,261	10,363	22,437	25,595
Industrial[9] do	32,531	31,346	33,004	33,382	38,235
Total do	42,977	41,607	43,367	55,819	63,830
Diatomite[4] thousand metric tons	1,524	1,500	1,518	1,513	1,510
Feldspar[4] do	3,202	3,261	3,506	3,703	3,639
Fluorspar do	5,006	4,956	4,391	4,230	4,599
Graphite[5] metric tons	596,681	589,845	563,532	577,872	573,198
Gypsum thousand metric tons	78,363	76,214	72,314	78,357	81,213
Iodine metric tons	11,605	12,025	12,254	12,541	12,363
Lime[4] thousand metric tons	120,466	117,433	109,630	110,628	113,151
Magnesite[3] do	11,517	11,183	11,162	11,176	10,844
Mica[4] do	228	236	214	240	261
Nitrogen: N content of ammonia do	73,635	76,629	75,217	77,384	84,275
Perlite do	1,526	1,442	1,403	1,397	1,315
Phosphate, gross weight:					
Phosphate rock do	144,193	143,087	127,335	139,265	150,571
Thomas slag do	4,710	3,381	2,825	2,398	2,415
Guano do	29	8	21	7	7
Potash, marketable, K_2O equivalent do	27,857	27,079	24,665	27,426	28,638
Pumice[4 5] do	12,430	12,207	12,394	11,254	12,125
Salt do	168,878	171,638	163,223	159,268	167,141
Sodium compounds, n.e.s.:[4]					
Carbonate do	28,346	28,097	27,430	28,387	28,575
Sulfate do	4,529	4,616	4,053	4,001	3,959
Strontium minerals[4 5] metric tons	94,976	124,562	113,906	136,932	134,926
Sulfur, elemental basis:					
Elemental[10] thousand metric tons	17,227	16,240	13,941	12,730	14,072
From pyrites do	10,338	10,198	9,895	9,887	9,558
Byproduct[11] do	27,418	26,934	23,917	27,698	28,254
Total do	54,983	53,372	50,753	50,315	51,884
Talc, soapstone, pyrophyllite do	7,536	7,274	7,041	7,076	7,178
Vermiculite[4 5] metric tons	538,019	523,265	508,391	447,176	498,739
MINERAL FUELS AND RELATED MATERIALS					
Carbon black[4 5] thousand metric tons	4,185	4,179	4,009	4,251	4,558
Coal:					
Anthracite million metric tons	291	292	298	307	318
Bituminous do	2,562	2,558	2,658	2,665	2,775
Lignite do	967	994	1,031	1,045	1,099
Total do	3,820	3,844	3,987	4,017	4,192
Coke:[12]					
Metallurgical thousand metric tons	367	358	340	330	342
Other do	11	11	11	11	11
Gas, natural, marketed billion cubic feet	53,772	54,149	54,617	55,105	58,746
Natural gas liquids[4] million 42-gallon barrels	1,272	1,345	1,375	1,469	1,462
Peat thousand metric tons	307,117	351,320	376,085	373,640	374,730

See footnotes at end of table.

Table 1.—World production of major mineral commodities[1] —Continued

Commodity	1980	1981	1982	1983[p]	1984[e]
MINERAL FUELS AND RELATED MATERIALS —Continued					
Petroleum:					
Crude ------- million 42-gallon barrels	21,876	20,628	19,520	19,414	19,786
Refined ------- do	22,281	21,465	20,894	20,903	21,435

[e]Estimated. [p]Preliminary.
[1]Incorporates numerous revisions from the table corresponding to this table in previous editions of this chapter. Figures generally conform to those published in appropriate commodity chapters of volume I of the Minerals Yearbook, 1984 edition.
[2]Includes bauxite equivalent of nepheline syenite concentrate and alunite ore produced in the U.S.S.R. (the only producer on record of such materials as a source of aluminum).
[3]Excludes data for the United States (withheld to avoid disclosing company proprietary data).
[4]Excludes data for China (no adequate basis for estimation available).
[5]Excludes data for the U.S.S.R. (no adequate basis for estimation available).
[6]Includes all metal clearly identified as primary as well as all metal that cannot be subdivided clearly between primary and secondary (see footnote 7).
[7]Includes only that metal that is clearly identified as secondary. Some countries do not distinguish between primary and secondary, and for some of these, no basis is available for estimating the breakdown of total production. For such countries, the total has been included under "Primary" (see footnote 6).
[8]Excludes data for the United States (withheld to avoid disclosing company proprietary data), which in previous years accounted for approximately 50% of the world total.
[9]Includes leucoxene.
[10]Comprises sulfur produced by the Frasch process plus sulfur mined in the elemental state from ores.
[11]Comprises sulfur recovered from coal gasification, metallurgical operations (except pyrite processing), natural gas, petroleum, tar sands, spent oxides, and gypsum, whether recovered in the elemental state or as a sulfur compound.
[12]Production of coke other than metallurgical by China and the U.S.S.R. is included with "Coke: Metallurgical."

VALUE OF WORLD MINERAL PRODUCTION

The value of world crude mineral output in 1984 was estimated at $518.9 billion constant 1978 dollars. Details on the methodology employed to prepare this estimate are summarized in the 1980 edition of this chapter, to which the reader is referred.

GEOGRAPHIC DISTRIBUTION OF WORLD MINERAL OUTPUT VALUE

Available information is inadequate to extrapolate to 1984 the 1978 data on geographic distribution of world crude mineral output published in the November-December 1980 edition of Annales des Mines. A summary of the 1978 distribution, together with comparable figures for 1973 and 1950 and additional textual comments on regional distribution of these values, was included in the 1980 edition of this chapter, and the reader is referred to this publication as well as to the original source for further detail.

COMMODITY DISTRIBUTION OF WORLD MINERAL OUTPUT VALUE

As in the case of geographic distribution of world crude mineral output value, the inadequacy of data precludes any reliable extrapolation of the various commodities' shares of the totals shown in the preceding edition of this chapter and in the source publication, Annales des Mines. The reader should refer to these publications for the data for 1978 and prior years.

TRADE

For 1983, the aggregate value of total world international trade in mineral commodities was estimated at $630,900 million (current dollars), 8.7% below the 1982 level and 20.7% below the record high set in 1980. Comparable data for 1984 were not available for inclusion in this chapter, but available partial information suggests that the 1984 level probably declined from that registered for 1983. The following tabulation summarizes the development pattern in mineral commodity trade for 1979-83, inclusive, as well as the share of that trade in total commodity trade:

Year	Estimated value of all mineral commodities traded (millions)	Change from previous year (percent)	Mineral commodities' share of all commodities traded (percent)
1979	$581,200	+42.6	35.5
1980	795,900	+36.9	39.9
1981[r]	762,500	-4.2	38.9
1982[r]	691,300	-9.3	37.5
1983	630,900	-8.7	34.9

[r]Revised.

Table 2, which serves as a basis for the estimates of total mineral trade that appear in the foregoing tabulation, provides reported data on the value in major mineral commodity groups and total commodity trade for 1979-83. Major mineral commodity trade by region (such as provided by tables 8-10 in the 1976 edition of this chapter) may be obtained for more recent years directly from the United Nations Monthly Bulletin of Statistics for May 1985.

CONSUMPTION

NONFUEL MINERAL COMMODITIES

Consumption of the great majority of nonfuel mineral commodities for which worldwide data are compiled increased in 1984, continuing and broadening the trend of 1983 and in sharp contrast with the almost universal drops noted for 1982. Of the 14 nonfuel commodities covered in table 5, all but 2 showed higher consumption levels in 1984 than in 1983, the exceptions being cadmium (unchanged from that of 1983) and tin (down very marginally from that of 1983). As demonstrated in the table, however, there were some significant differences in the trends of change of nonferrous metals consumption between the market economy world and the centrally planned economy world, and in part for this reason, the style of presentation of this data adopted in the 1982 edition of this chapter has been continued. This style has also been followed because there are substantial differences between production estimates for the centrally planned economy countries made by the U.S. Bureau of Mines and those made by Metallgesellschaft AG, the source for these consumption figures. Inasmuch as these production figures are used to calculate the published apparent consumption figures, a considerable difference will result if the Bureau production figures were to be substituted. For instance, if the Bureau estimate of aluminum production were substituted, centrally planned countries' consumption of aluminum in 1984 would be about 320,000 tons lower than that reported in table 5. Similarly, 1984 copper consumption for these countries would be about 440,000 tons lower, lead consumption would be 45,000 tons lower, nickel consumption would be 20,000 tons higher, tin consumption would be 19,000 tons higher, and zinc consumption would be 105,000 tons lower. There would be no significant differences for cadmium or magnesium.

MINERAL FUEL COMMODITIES

Table 5 also includes data on mineral fuel consumption, with use of each fuel expressed in terms of standard coal equivalent to make interfuel comparisons clear, as well as to permit their summation to show total energy use. The declining trend in consumption of liquid fuels that has continued since 1978 was at long last reversed, but the 1.5% increase registered for liquid fuels fell far short of the 3.7%, 6.3%, and 7.2% increases recorded for solid fuels, natural gas, and hydro, geothermal, and nuclear power, respectively, and significantly under the 3.5% growth shown for total energy materials.

INVESTMENT

Comprehensive world mineral industry investment data do not exist, but available figures generally indicate a small increase in the rate of investment. Data published by the U.S. Department of Commerce germane to U.S. foreign investment in 1984, however, showed an increase of 21% in capital outlays relative to those of 1983.

Available reports on steel industry investment by members of the Organization for Economic Cooperation and Development show a decrease of 12% in capital investment for 1983, the latest year for which information is available, following increases in the past 3 years. Slight increases in investments by France, the Netherlands, and Turkey were offset by decreases in investments by the other 18 members with investments dropping by 23% by the United States.

Information relative to capital expenditures and exploration expenditures for the petroleum industry of market economies during 1984 continued the downward trend from the high of $149,200 million recorded for 1981. In the United States, capital expenditures in 1984 increased slightly relative to that of 1983 to $45,850 million, but capital expenditures for exploration decreased by 4% during the same period to $4,075 million. Data covering the 1980-84 period on capital expenditures in market economy countries by the petroleum industry are presented in table 7 of this chapter for the first time in several years.

TRANSPORTATION

MARINE TRANSPORT

Bulk carriers, freighters, and tankers are the three classes of vessels engaged in transporting mineral commodities. It should be noted that vessels in each of the three categories are not devoted wholly to mineral commodity transport. Bulk carriers move agricultural products as well as crude minerals and mineral fertilizers, while freighters, because of their great variety, can be devoted wholly to hauling mineral products or wholly to moving nonmineral goods, as well as carrying mixed mineral and nonmineral cargoes. Tankers, although largely engaged in moving crude oil and refinery products, also transport liquid chemicals, wine, molasses, and whale oil.

Although physical characteristics of vessels—size, draft, age, crew requirements, type of propulsion system, etc.—as well as fuel costs have an undeniable influence on shipping industry performance, problems of and changes in the quantity and type of material moved also significantly affect the shipping sector of the world economy. Unfortunately, comprehensive data in this regard are not available.

Bulk Carriers.—During 1984, the world's bulk carrier fleet increased relative to that of 1983 by 176 vessels, compared with vessel increases of 169 and 228 in 1983 and 1982, respectively, a 3.3% increase in the number of vessels. Again in 1984, as in the past 4 years, there was a very small increase in the deadweight tonnage of bulk carriers. The following tabulation shows the distribution of the bulk carrier fleet of the world for 1984:

Country	Number of vessels	Deadweight tonnage (thousand metric tons)
Liberia	781	41,166
Greece	843	29,428
Panama	877	28,086
Japan	472	23,286
Norway	121	8,489
Korea, Republic of	172	6,460
United Kingdom	116	6,021
Italy	107	5,926
India	118	5,004
China	152	4,914
Taiwan	68	4,646
U.S.S.R.	203	4,532
Brazil	83	4,316
Singapore	87	3,741
Cyprus	115	3,348
Philippines	93	3,093
France	43	2,619
Belgium	34	2,515
Spain	76	2,298
Romania	57	2,022
Poland	82	1,906
Turkey	52	1,796
Yugoslavia	58	1,789
Australia	32	1,631
Germany, Federal Republic of	26	1,434
Other	692	24,940
Total	5,560	225,496

Freighters.—The world's freighter fleet decreased in 1984 by 249 vessels, to the fewest vessels since 1977. Compared with that of 1983, however, both the average gross and the average deadweight tonnages increased slightly. The following tabulation shows the distribution of the freighter fleet of the world by country of registry for 1984:

Country	Number of vessels	Deadweight tonnage (thousand metric tons)
Panama	2,090	17,575
U.S.S.R.	1,809	11,511
Greece	916	9,995
United States	421	6,613
Japan	675	6,507
China	616	6,149
Liberia	412	5,025
Germany, Federal Republic of	335	3,341
Singapore	323	3,305
United Kingdom	224	2,965
Cyprus	392	2,682
India	203	2,593
Netherlands	353	2,338
Denmark	171	2,065
Korea, Republic of	254	1,886
Yugoslavia	191	1,883
France	151	1,880
Brazil	184	1,649
Poland	194	1,639
Other	4,105	33,117
Total	14,019	124,758

Tankers.—During 1984, the world's tanker fleet decreased by 66 vessels, and average gross and deadweight tonnages decreased 5.1% and 5.6%, respectively. The following tabulation presents the distribution of the tanker fleet of the world by country of registry for 1984:

Country	Number of vessels	Deadweight tonnage (thousand metric tons)
Liberia	726	78,468
Japan	476	29,738
Greece	324	21,980
Norway	223	18,627
Panama	502	17,312
United States	265	15,877
United Kingdom	261	14,631
France	92	10,540
U.S.S.R.	474	7,727
Cyprus	78	6,837
Spain	106	6,631
Italy	226	6,594
Bahamas	37	5,402
Denmark	83	4,876
Singapore	103	4,149
Brazil	76	3,369
Saudi Arabia	64	3,188
Netherlands	65	3,181
Other	1,301	45,462
Total	5,482	304,589

The overall size of the world's tanker fleet, measured in terms of deadweight tonnage, reached an historic peak in 1977 and has generally declined since that year. Lagging slightly behind this decline, there has been a reversal in the trend toward constant increase in the size of tankers. In 1979, vessels with a deadweight tonnage of over 200,000 tons accounted for 57.7% of the total deadweight tonnage of tankers; this figure has declined in each year since, falling to 51.9% by 1984. Correspondingly, there has been a consistent increase in the shares of total deadweight tonnage accounted for by each of the three smallest size classes of tankers shown in the following tabulation, which is based upon data published on page 18 in the British Petroleum Co. PLC annual publication, BP Statistical Review of the World Energy, June 1985:

Size group (deadweight metric tons)	Percent of total				
	1980	1981	1982	1983	1984
10,000-25,000	4.3	4.3	r4.5	4.6	4.7
25,000-45,000	7.6	8.1	9.0	9.7	9.8
45,000-65,000	4.9	5.2	5.3	5.4	5.8
65,000-125,000	16.2	17.3	17.1	17.1	17.1
125,000-200,000	10.2	9.7	9.9	10.2	10.7
200,000-320,000	47.8	45.8	44.2	42.5	41.4
320,000 and over	9.0	9.6	10.0	10.5	10.5

rRevised.

This same source shows that there was a significant growth in the deadweight tonnage of tankers scrapped between 1979 and 1984; this figure was 6 million deadweight tons in 1979, increasing to 7.7 million tons during 1980, 12 million tons during 1981, 21.6 million tons during 1982, and peaking at 23.5 million tons during 1983, with a decline to 17.6 million tons during 1984. Beginning in 1980, well over one-half of the tonnage of vessels scrapped was provided by vessels exceeding 160,000 deadweight tons. In 1984, of the 17.6 million tons total, 63% of the tonnage scrapped was from 160,000-ton-plus vessels. The deadweight tonnage of tankers under construction and on order at yearend 1984 totaled 11.3 million tons, of which 4.9 million tons was in vessels of 10,000 to 65,000 tons, 4.4 million tons was in vessels of 65,000 to 125,000 tons, and 2.0 million tons was in vessels larger than 125,000 tons.

OCEAN FREIGHT RATES

Data on 1984 ocean freight rates were not available in time for inclusion in this chap-

ter. The United Nations last published ocean freight rate information in the December 1984 edition of the Monthly Bulletin of Statistics.

PANAMA AND SUEZ CANALS

Data on 1984 mineral commodity shipments through the Panama Canal were not available sufficiently early for inclusion in this chapter, but data on 1983 shipments that have become available since the publication of the previous edition of this chapter showed a sharp decline in the level of shipment of mineral commodities, as shown in the following tabulation:

	Fiscal year[1]				
	1979	1980	1981	1982	1983
Number of transits:					
Commercial ocean traffic	12,935	13,507	13,884	14,009	11,707
Other traffic	1,427	1,218	1,166	1,262	1,247
Total	14,362	14,725	15,050	15,271	12,954
Cargo moved (thousand metric tons):					
Commercial ocean traffic:					
Mineral commodities	90,082	99,520	99,969	111,493	72,428
Other commodities	66,503	70,379	74,001	76,936	75,499
Subtotal	156,585	169,899	173,970	188,429	147,927
Other traffic	370	403	308	291	364
Total	156,955	170,302	174,278	188,720	148,291

[1]Year ending Sept. 30 of that stated.

In fiscal year 1983, mineral commodities accounted for only 49% of all commercial traffic through the Panama Canal, a figure far lower than the 59.1% recorded for 1982 and lower than the level for many prior years. Table 10 distributes mineral commodity trade through the canal during 1981-83 by major group.

In terms of major mineral commodity groups, fuels were dominant in each year, but in 1983 they were only 63.7% of the total, compared with 74% of the 1982 total and 70.8% in 1981, a decline in the fuels' share to a level lower than that of 1980. Metallic commodities ranked second, accounting for 18.5% of total mineral commodity tonnage, with nonmetals ranking third with only 17.8%. Steel semimanufactures were the dominant single metals class; fertilizer materials were the overwhelmingly dominant nonmetals class; crude petroleum was the dominant single fuel commodity. The decline in the level of total mineral commodity trade was chiefly the result of much lower levels of shipment of crude oil and coal and coke; transits of crude fell to 42% of the 1982 level, while those of coal dropped to 51% of the level of 1982.

For greater detail on mineral movements through the Panama Canal, including direction of movements to and from the canal, the reader is referred to the Panama Canal Annual Report.

In contrast, the Suez Canal showed an upturn in mineral commodity trade in 1983, and this trend continued in 1984, as shown in the following tabulation:

	1981	1982	1983	1984
Number of transits:				
Commercial ocean traffic	20,395	21,398	21,026	20,147
Other traffic	1,182	1,147	1,198	1,214
Total	21,577	22,545	22,224	21,361
Cargo moved (thousand metric tons):				
Commercial ocean traffic:				
Mineral commodities	104,309	136,267	153,497	159,000
Other commodities	92,119	95,126	103,208	104,728
Total	196,428	231,393	256,705	263,728

In 1984, mineral commodities accounted for 60.3% of all commercial traffic through the Suez Canal, and the 1984 level was 3.6% above that of 1983.

Table 11, which distributes mineral commodity trade through the Suez Canal by commodity and by direction, shows that the fuels are also the single largest major group of mineral commodities moved through the canal, with the metals group ranking second and the nonmetals group ranking third. As in past years, iron ore was the most significant component of the metallic commodity group, and fertilizer materials ranked first among nonmetals, as was the case for the Panama Canal. Greater detail on Suez Canal mineral shipments can be found in the Suez Canal Annual and Monthly Reports.

OVERLAND TRANSPORT

Limitations of time have precluded comprehensive assessment of overland international transport of mineral commodities, whether by rail or by pipeline. International rail shipments of mineral commodities on a large scale are confined chiefly to those movements from Canada and Mexico to the United States and to transfers of mineral commodities within European countries south of the Baltic. Notable exceptions are the shipment of large quantities of iron ore from Sweden to Narvik, Norway, for loading on ships there, and to the flow of a variety of minerals from southern Africa into the Republic of South Africa for export through that nation's ports.

Major international pipeline movements of oil and natural gas, generally speaking, are confined to the same areas as are rail transport of minerals. Deliveries of oil from the Persian Gulf fields to the Eastern Mediterranean have been impossible for several years owing to the political and/or military problems of that area, and similarly, the deliveries of Iranian natural gas to the U.S.S.R. have been stopped since 1980, and there appears no likelihood of reestablishment of this trade.

Information on rail and pipeline transport of mineral commodities within individual countries is covered in the appropriate country chapter.

PRICES

Comprehensive data on world prices for crude minerals and for mineral products around the world are not available, but prices of major commodities for selected markets are regularly published and serve as indicators of general price trends. Tables 12, 13, and 14 summarize prices for selected metals in the United States, the United Kingdom, and Canada, respectively, for 1980-84, inclusive, with monthly data provided for 1984. Review of the data in these tables reveals increases in lead and zinc prices during 1984 in each of these markets and a fair gain in the cadmium price on the U.S. market (the only one for which cadmium is reported). For other commodities shown, results were less favorable. The aluminum price advanced by 5 cents per pound on the U.S. market but fell in the United Kingdom; silver for 1984 averaged slightly above the 1983 level in the United States but registered drops in Canada and the United Kingdom; copper prices declined in all three markets; tin prices were lower in both the United States and the United Kingdom (Canada reports no tin price); the cobalt price (reported only for the United States) fell in December by $0.80, lowering the annual average for that metal; and the annual average London gold price was almost $64 per troy ounce lower for 1984 than for 1983. Problems arising in the mineral industry as a result of these generally lower prices were compounded by continuing inflation, although certainly the inflation rate was far below the double-digit levels of the recent past.

Among the major nonmetals, the price of sulfur advanced significantly during 1984. Contract prices in the first half of 1984 ranged from $85 to $105 per ton, f.o.b. loading port, depending on the marketing country and the grade of the sulfur, compared with a range of $105 to $125 for the second half of the year. In contrast, the prices for most fertilizer products, after registering gains in the early and midyear months of 1984, registered declines thereafter.

Comparison of reported crude oil prices, mainly officially set state selling prices, between yearend 1983 and yearend 1984, shows that for Persian Gulf crudes, prices were unaltered, ranging between $26.00 and $29.56 per barrel, f.o.b. Similarly, Algerian and Libyan prices, $30.50 and $30.15 per barrel, respectively, were unchanged, as were Venezuelan prices that ranged from

$27.03 to $31.09 per barrel, Mexican prices that ranged from $25.50 to $29.00 per barrel, and the Indonesian price of $29.53 per barrel. The Canadian wellhead price was unaltered in terms of Canadian dollars at $29.75, but this meant a decline in the U.S. dollar price of Canadian crude from about $24.14 per barrel to $22.97 because of the variance in the official exchange rate. In contrast to the fixed prices elsewhere, Nigerian crude oil prices were reduced in October from a range of $29.02 to $30.02 to a range of $27.52 to $28.02. At the same time, the British North Sea crude price was lowered from $30.00 to $28.65, with the Norwegian North Sea crude price dropping from $30.25 to $28.95 in the month of November. It should also be noted with regard to Persian Gulf crude oil prices, that although the official sales prices did not decline, there were drops in spot prices that ranged from 5 cents per barrel to $1.40 per barrel during 1984 for some selected types. In the United States, the posted price per barrel for sweet crude was listed as $30.35 at the end of 1983 and $28.00 at yearend; corresponding figures for sour crude were $29.00 and $27.50.

STATISTICAL SUMMARY OF WORLD PRODUCTION AND TRADE OF MAJOR MINERAL COMMODITIES

The final 24 tables of this chapter, tables 15-38, extend the statistical series on production that was started in the 1963 edition of the International Area Reports volume of the Minerals Yearbook and was subsequently updated and expanded in the 1965 and 1976-83 editions. They are primarily a supplement to other statistical data within this chapter but also serve as a summary of international production data for major mineral commodities covered in greater detail, on a commodity basis, in volume I of the 1984 Minerals Yearbook and on a country basis in volume III.

In this edition, the data presented in these tables, in most instances, correspond with the data in the individual commodity world production tables appearing in volume I and may differ somewhat from a total that might be obtained by adding figures presented for any single commodity in each of the country chapters of volume III. This apparent disparity results from problems of scheduling compilation of tables in the numerous commodity and country chapters in the two volumes. In an effort to provide the user with the most up-to-date information possible, data received after completion of worldwide commodity production tables (volume I) have been included in many of the individual country production tables (volume III). Limitations of time, however, have prevented the incorporation of these revisions in the abbreviated versions of the world commodity tables included here. Thus, a more precise figure for total world production of any commodity could be obtained by adding figures presented in the individual country chapters. For summary purposes, however, it is felt that tables 15-38 of this chapter are sufficiently correct without the inclusion of these generally minor revisions.

The series of data on world trade in major mineral commodities that has appeared in most previous editions of this chapter (tables 57-69 in the 1976 edition) could not be included owing to scheduling problems.

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[1]Senior foreign mineral specialist, Division of International Minerals.

[2]Chief, Branch of Geographic Data, Division of International Minerals.

[3]Table 1 contains 100 data lines, but 3 of these are totals of others; these total lines are not included in the total of 97 distinct commodities or forms of commodities counted here.

Table 2.—Value of world export trade in major mineral commodity groups[1]

(Million U.S. dollars)

Commodity group	1979	1980	1981[r]	1982[r]	1983
Metals:					
All ores, concentrates, scrap	23,559	29,401	26,438	22,272	22,868
Iron and steel	70,399	75,695	73,296	70,026	60,939
Nonferrous metals	37,129	52,437	38,807	34,294	38,679
Total	131,087	157,533	138,543	126,592	122,486
Nonmetals, crude only	9,598	11,678	11,412	9,906	8,974
Mineral fuels	333,031	479,545	471,518	426,918	382,685
Grand total	473,716	648,756	621,473	563,416	514,145
All commodities	1,636,398	[r]1,994,190	1,958,432	1,843,560	1,807,262

[r]Revised.
[1]Data presented are for selected major commodity groups of the Standard International Trade Classification Revised (SITCR) and as such exclude some mineral commodities classified in that data array together with other (nonmineral) commodities. SITCR categories included are as follows: All ores, concentrates, and scrap—SITC Div. 28; iron and steel—SITC Div. 67; nonferrous metals—SITC Div. 68; nonmetals (crude only)—SITC Div. 27; and mineral fuels—SITC Div. 3. Major items not included are the metals, metalloids, and metal oxides of SITC Group 513; mineral tar and other coal, petroleum, and gas-derived crude chemicals of SITC Div. 52; manufactured fertilizers of SITC Div. 56; and nonmetallic mineral manufactures of SITC Groups 661, 662, 663, and 667. Data include special category exports, ship stores and bunkers, and other exports of minor importance, and exclude the intertrade of the centrally planned economy countries of Asia and trade between the Federal Republic of Germany and the German Democratic Republic.

Source: United Nations. Monthly Bulletin of Statistics. V. 39, No. 5, May 1985, p. cxxiii.

Table 3.—Distribution of value of world export trade in major mineral commodity groups[1]

(Percent)

Commodity group	1979	1980	1981[r]	1982[r]	1983
Metals:					
All ores, concentrates, scrap	5.0	4.5	4.3	4.0	4.4
Iron and steel	14.9	11.7	11.8	12.4	11.9
Nonferrous metals	7.8	8.1	6.2	6.1	7.5
Total	27.7	24.3	22.3	22.5	23.8
Nonmetals, crude only	2.0	1.8	1.8	1.7	1.7
Mineral fuels	70.3	73.9	75.9	75.8	74.5

[r]Revised.
[1]For detailed definition of groups, see footnote 1, table 2.

Table 4.—Growth of value of world export trade in major mineral commodity groups[1]

(Percent change from that of previous year)

Commodity group	1979	1980	1981[r]	1982[r]	1983
Metals:					
All ores, concentrates, scrap	+42.6	+24.8	-10.1	-15.8	+2.7
Iron and steel	+23.2	+7.5	-3.2	-4.5	-13.0
Nonferrous metals	+33.8	+41.2	-26.0	-11.6	+12.8
All metals	+29.3	+20.2	-12.1	-8.6	-3.2
Nonmetals, crude only	+23.1	+21.7	-2.3	-13.2	-9.4
Mineral fuels	+49.4	+44.0	-1.7	-9.5	-10.4
All major mineral commodity groups	+42.6	+36.9	-4.2	-9.3	-8.7
All commodities	+26.1	+21.9	-1.8	-5.9	-2.0

[r]Revised.
[1]For detailed definition of groups, see footnote 1, table 2.

Table 5.—World consumption of selected mineral commodities

(Thousand metric tons unless otherwise specified)

Commodity	1980	1981	1982	1983	1984[p]
Ferrous metals: World:					
Iron ore, gross weight[e] million metric tons	883	862	776	[r]780	800
Iron and steel scrap, gross weight do	[r]342	[r]328	[r]318	284	295
Nonferrous metals:					
Market economy countries:					
Aluminum, refined	[r]11,991	[r]11,196	[r]10,803	11,988	12,656
Cadmium	13	[r]13	[r]13	14	14
Copper, refined	7,088	[r]7,236	[r]6,755	6,780	7,549
Lead, refined	3,882	[r]3,813	[r]13,765	3,778	3,949
Magnesium, primary	204	179	166	177	194
Nickel[1]	[r]528	[r]476	[r]456	485	580
Tin, refined	[r]180	172	[r]159	160	158
Zinc, slab	[r]4,407	[r]4,274	[r]4,159	4,521	4,653
Centrally planned economy countries:					
Aluminum, refined	[r]3,311	[r]3,283	[r]3,308	3,374	3,303
Cadmium	4	4	4	4	4
Copper, refined	[r]2,274	[r]2,273	[r]2,262	2,268	2,240
Lead, refined	1,466	1,461	1,472	1,462	1,451
Magnesium, primary	80	[r]81	[r]83	88	94
Nickel[2]	189	186	192	195	197
Tin, refined	[r]55	54	[r]57	60	60
Zinc, slab	[r]1,732	[r]1,729	[r]1,775	1,792	1,759
World total:					
Aluminum, refined	[r]15,302	[r]14,479	[r]14,111	15,305	15,959
Cadmium	17	[r]17	[r]17	18	18
Copper, refined	[r]9,362	[r]9,509	[r]9,017	9,048	9,789
Lead, refined	5,348	[r]5,274	[r]5,237	5,250	5,400
Magnesium, primary	284	[r]260	[r]249	265	288
Nickel[2]	[r]717	[r]662	[r]648	680	777
Tin, refined	235	226	216	220	218
Zinc, slab	[r]6,139	[r]6,003	[r]5,934	6,313	6,412
Nonmetals: World:					
Fertilizers:					
Nitrogenous[3] million metric tons of contained N	57,433	60,551	[r]60,498	61,073	66,941
Phosphatic[3] million metric tons of contained P_2O_5	31,171	31,572	[r]30,844	30,981	33,013
Potassic[3] million metric tons of K_2O equivalent	24,039	24,325	[r]23,673	22,721	25,472
Sulfur million metric tons of elemental sulfur equivalent	55,943	54,668	[r]51,453	53,713	[e]59,200
Mineral fuels: World:					
Solid fuels million metric tons of standard coal equivalent	[r]2,631	[r]2,650	[r]2,685	2,753	2,856
Liquid fuels do	[r]3,778	[r]3,645	[r]3,567	3,537	3,591
Natural gas do	[r]1,834	[r]1,840	[r]1,844	1,876	1,995
Hydro, geothermal, nuclear electricity do	301	320	[r]333	358	384
Total do	[r]8,544	[r 4]8,456	[r]8,429	8,524	8,826

[e]Estimated. [p]Preliminary. [r]Revised.

[1]Primary and secondary combined.

[2]Nickel content of refined nickel, ferronickel, and nickel oxide.

[3]Data are for years ending June 30 of that stated.

[4]Data do not add to total shown because of independent rounding.

Sources: Based on data provided by the World Bureau of Metal Statistics (market economy countries, nonferrous metals except magnesium); Metallgesellschaft AG (centrally planned economy countries, nonferrous metals and all magnesium consumption); British Sulphur Corp. (nonmetals); United Nations Yearbook of World Energy Statistics (all mineral fuels for 1979); 1982 United Nations Energy Statistics Yearbook (all mineral fuels for 1980-82); and British Petroleum Co., p. 1c (mineral fuels data for 1983). Data on iron ore and iron and steel scrap compiled from a variety of sources by the U.S. Bureau of Mines.

Table 6.—Annual investment expenditure in the steel industry for selected countries

(Million dollars unless otherwise specified)

Country or country group	1979	1980	1981	1982	1983
EEC[1]	3,025	3,111	2,754	2,427	1,984
EFTA[2]	509	840	537	r291	211
Other countries:					
Australia	122	220	355	217	64
Canada	319	487	698	r483	165
Japan	2,916	2,865	3,610	r3,720	3,720
New Zealand	6	NA	NA	NA	NA
Spain	294	237	183	r204	131
Turkey	NA	NA	NA	58	103
United States	3,367	3,400	3,365	r4,203	3,235
Total	10,558	11,160	11,502	r11,603	9,613

rRevised. NA Not available.

[1]Source reports that values for European Economic Community (EEC) countries are in terms of "million units of account." For this tabulation the units in the source have been converted to U.S. dollars using the following factors supplied by the International Monetary Fund: U.S. dollars per European units of account (ECU) at the end of the 1979 period—1.4419; 1980—1.3096; 1981—1.0852; 1982—0.9677; and 1983—0.8274.

[2]European Free Trade Association (EFTA) figures exclude data for Switzerland.

Sources: Organization for Economic Cooperation and Development. The Iron and Steel Industry in 1980. Paris, 1982, p. 25; The Iron and Steel Industry in 1981. Paris, 1983, p. 32; The Iron and Steel Industry in 1982. Paris, 1984, p. 32; The Iron and Steel Industry in 1983. Paris, 1985, p. 32.

Table 7.—Market economy country petroleum industry capital and exploration expenditures, by geographical area

(Million dollars)

Area and type of expenditure	1980	1981	1982	1983	1984
United States:					
Capital	42,900	63,000	63,550	45,600	45,850
Exploration	3,850	5,700	4,500	4,250	4,075
Total	46,750	68,700	68,050	49,850	49,925
Other Western Hemisphere:					
Capital	16,525	19,550	21,275	19,175	18,675
Exploration	1,675	1,975	2,025	1,475	1,500
Total	18,200	21,525	23,300	20,650	20,175
Western Europe:					
Capital	18,625	17,950	17,450	13,950	12,725
Exploration	750	1,025	1,275	1,100	1,275
Total	19,375	18,975	18,725	15,050	14,000
Africa:					
Capital	5,275	8,100	7,575	6,500	6,300
Exploration	500	800	675	525	450
Total	5,775	8,900	8,250	7,025	6,750
Near East:					
Capital	11,525	14,625	12,950	11,150	10,875
Exploration	200	250	325	375	425
Total	11,725	14,875	13,275	11,525	11,300
Far East:					
Capital	7,875	11,125	12,875	11,475	10,575
Exploration	650	850	800	700	650
Total	8,525	11,975	13,675	12,175	11,225
Foreign flag tankers	2,800	4,250	3,750	3,925	1,775
World:					
Capital (including foreign flag tankers)	105,525	138,600	139,425	111,775	106,775
Exploration	7,625	10,600	9,600	8,425	8,375
Grand total	113,150	149,200	149,025	120,200	115,150

Source: Chase Manhattan Bank, Energy Economics Div. 1984 Capital Investments of the World Petroleum Industry. New York, Sept. 1985, Schedule 4.

Table 8.—Salient statistics on U.S. foreign investment in mineral industry activities

(Million dollars)

	1982	1983[r]	1984
Direct foreign investment:			
Mining, smelting, refining	6,292	6,805	7,053
Petroleum	56,642	60,330	63,319
Reinvested earnings of foreign affiliates:			
Mining, smelting, refining	-207	-46	-85
Petroleum	1,141	2,532	4,107
Equity and intercompany account flows:			
Mining, smelting, refining	W	537	-397
Petroleum	[r]2,003	564	-3,254
Income:			
Mining, smelting, refining	163	245	277
Petroleum	10,059	9,548	10,065

[r]Revised. W Withheld to avoid disclosing company proprietary data.

Source: U.S. Department of Commerce. Survey of Current Business, v. 64, No. 8, Aug. 1984; and v. 65, No. 8, Aug. 1985.

Table 9.—World merchant fleet distribution, by type[1]

		1980	1981	1982	1983	1984
Number of vessels:						
Bulk carriers		4,798	4,987	5,215	5,384	5,560
Freighters[2]		14,242	14,201	14,280	14,268	14,019
Tankers		5,359	5,517	5,583	[r]5,548	5,482
Other[3]		468	405	404	379	363
Total		24,867	25,110	25,482	[r]25,579	25,424
Gross tonnage:						
Bulk carriers	thousand metric tons	106,927	111,820	119,341	124,000	129,274
Freighters[2]	do.	90,674	92,142	93,323	94,222	94,549
Tankers	do.	183,858	184,551	180,082	173,335	164,451
Other[3]	do.	4,252	3,867	3,898	3,768	3,705
Total	do.	385,711	392,380	396,644	395,325	391,979
Deadweight tonnage:						
Bulk carriers	do.	185,311	194,368	208,153	[r]216,468	225,496
Freighters[2]	do.	121,252	123,119	124,994	[r]125,646	124,758
Tankers	do.	346,329	346,439	336,142	[r]322,617	304,589
Other[3]	do.	2,017	1,827	1,805	1,673	1,579
Total	do.	654,909	665,753	671,094	[r]666,404	656,422

[r]Revised.
[1]Maritime Administration classification. Tankers include whaling tankers. Vessels shown here as "Other" include combination passenger and cargo and combination passenger and refrigerated cargo. Data are as of Dec. 31 of year indicated.
[2]Includes refrigerated freighters.
[3]Excludes refrigerated freighters.

Source: U.S. Department of Transportation, Maritime Administration. Merchant Fleets of the World. Annual issue for 1983 and unpublished data supplied by the same agency for 1984.

Table 10.—Movement of mineral commodities through the Panama Canal

(Thousand metric tons)

	1981			1982			1983		
	Atlantic to Pacific	Pacific to Atlantic	Total	Atlantic to Pacific	Pacific to Atlantic	Total	Atlantic to Pacific	Pacific to Atlantic	Total
METALS									
Ore and concentrate:									
Bauxite and alumina	572	541	1,113	372	183	555	381	109	490
Chromite	3	114	117	4	51	55	--	11	11
Copper	49	607	656	29	742	771	1	421	422
Iron	8	430	438	24	266	290	70	55	125
Lead	19	112	131	36	151	187	18	126	144
Manganese	256	103	359	187	69	256	135	89	224
Tin	--	50	50	--	44	44	--	31	31
Zinc	64	403	467	38	564	602	58	476	534
Other and unspecified	148	1,998	2,146	64	2,133	2,197	99	1,666	1,765
Subtotal	1,119	4,358	5,477	754	4,203	4,957	762	2,984	3,746
Ingots and semimanufactures:									
Aluminum	297	62	359	317	65	382	403	58	461
Copper	8	967	975	4	959	963	43	1,181	1,224
Iron and steel[1 2]	3,603	5,035	8,638	2,953	5,366	8,319	3,776	3,683	7,459
Lead	4	63	67	18	98	116	14	131	145
Tin[1]	62	44	106	33	29	62	15	21	36
Zinc	34	141	175	6	212	218	13	131	144
Other	32	170	202	43	96	139	77	81	158
Subtotal	4,040	6,482	10,522	3,374	6,825	10,199	4,341	5,286	9,627
Total	5,159	10,840	15,999	4,128	11,028	15,156	5,103	8,270	13,373
NONMETALS									
Borax	4	546	550	2	433	435	12	387	399
Cement	224	10	234	61	7	68	65	7	72
Clays, fire and china	365	11	376	452	9	461	386	28	414
Fertilizer materials	7,397	1,290	8,687	7,013	1,578	8,591	8,078	1,491	9,569
Salt	87	299	386	120	594	714	124	5	129
Sulfur	44	2,388	2,432	2	2,616	2,618	11	1,976	1,987
Other[3]	242	239	481	195	276	471	146	166	312
Total	8,363	4,783	13,146	7,845	5,513	13,358	8,822	4,060	12,882
MINERAL FUELS									
Carbon black	34	30	64	6	106	112	4	1	5
Coal and coke	18,827	1,707	20,534	21,590	1,301	22,891	10,098	1,591	11,689
Petroleum:									
Crude	5,237	31,760	36,997	4,481	40,762	45,243	4,620	14,350	18,970
Refined	6,371	6,858	13,229	9,438	5,295	14,733	9,341	6,168	15,509
Subtotal	11,608	38,618	50,226	13,919	46,057	59,976	13,961	20,518	34,479
Total	30,469	40,355	70,824	35,515	47,464	82,979	24,063	22,110	46,173
Grand total	43,991	55,978	99,969	47,488	64,005	111,493	37,988	34,440	72,428

[1]Tinplate is included under "Tin" rather than under "Iron and steel" in source publication.
[2]Includes a category identified simply as "Scrap" in source publication, which may include scrap other than iron and steel scrap.
[3]Comprises asbestos, diatomite, soda and other sodium compounds, brick and tile, marble and other stone, slag, clinkers, and dross.

Source: Panama Canal Commission Annual Report 1982 and 1983.

Table 11.—Movement of mineral commodities through the Suez Canal

(Thousand metric tons)

	1982			1983			1984		
	Northbound	Southbound	Total	Northbound	Southbound	Total	Northbound	Southbound	Total
METALS									
Aluminum ore (bauxite)	2,120	[1]	2,120	1,352	[1]	1,352	1,849	[1]	1,849
Antimony	13	[1]	13	118	[1]	118	15	[1]	15
Chromium ore, concentrate, metal	160	[1]	160	61	[1]	61	95	[1]	95
Copper ore, concentrate, metal	131	[1]	131	201	[1]	201	419	[1]	419
Iron and steel:									
Iron ore	6,262	[1]	6,262	5,319	[1]	5,319	6,953	[1]	6,953
Scrap	2	NA	2	7	NA	7	9	NA	9
Pig iron	[1]	625	625	[2]	1,087	1,087	[2]	925	925
Unwrought	[2]	1,739	1,739	[2]	3,404	3,404	[2]	2,170	2,170
Plates and sheets	[2]	972	972	[2]	1,359	1,359	[2]	1,170	1,170
Lead ore, concentrate, metal	247	[1]	247	121	[1]	121	448	[1]	448
Manganese ore, concentrate, metal	630	[1]	630	544	[1]	544	684	[1]	684
Tin ore, concentrate, metal	16	[1]	16	28	[1]	28	30	[1]	30
Titanium ore (ilmenite and rutile)	265	[1]	265	447	[1]	447	627	[1]	627
Tungsten[3]	13	[1]	13	12	[1]	12	3	[1]	3
Zinc ore, concentrate, metal	205	[1]	205	149	[1]	149	322	[1]	322
Other and unspecified:									
Ores	1,321	1,068	2,389	792	788	1,580	771	827	1,598
Metals	2,804	2,723	5,527	1,922	4,563	6,485	2,063	4,275	6,338
NONMETALS									
Cement	--	12,107	12,107	38	13,180	13,218	2	11,182	11,184
Fertilizer materials:									
Nitrogenous:									
Urea	[4]	3,149	3,149	[4]	3,093	3,093	[4]	4,744	4,744
Ammonium nitrate	[4]	324	324	[4]	305	305	[4]	252	252
Ammonium sulfate	[4]	305	305	[4]	359	359	[4]	305	305
Phosphatic	[4]	2,894	2,894	[4]	2,812	2,812	[4]	3,433	3,433
Potassic	[4]	1,492	1,492	[4]	1,447	1,447	[4]	1,594	1,594
Other and unspecified	1,911	3,411	5,322	2,223	3,531	5,754	2,542	4,058	6,600
Total	1,911	11,575	13,486	2,223	11,547	13,770	2,542	[5]14,366	16,908
Salt	2	43	45	--	29	29	--	30	30
Minerals and rocks	663	462	1,125	588	1,002	1,590	815	857	1,672
MINERAL FUELS									
Coal and coke	3,996	446	4,442	4,251	399	4,650	7,315	307	7,622
Petroleum:									
Crude	49,074	6,353	55,427	63,753	2,831	66,584	64,248	2,022	66,270
Refinery products:									
Gasoline	249	1,020	1,269	184	1,156	1,340	351	841	1,192
Naphtha	[6]	[6]	[6]	[6]	[6]	[6]	2,654	[6]	2,654
Kerosine	275	2,443	2,718	278	3,313	3,591	111	2,914	3,025
Distillate fuel oil	1,003	7,373	8,376	1,784	5,323	7,107	3,181	3,031	6,212
Residual fuel oil	5,020	1,051	6,071	7,975	1,874	9,849	11,425	582	12,007
Lubricating oil	[6]	161	161	[6]	[r]216	[r]216	[6]	233	233
Asphalt	[6]	94	94	[6]	2	2	NA	NA	NA
Petroleum residues	41	[6]	41	17	[6]	17	12	[6]	12
Other and unspecified	7,518	2,071	9,589	7,249	2,513	9,762	4,658	1,666	6,324
Total mineral commodities	83,941	52,326	136,267	99,413	[5]54,084	[5]153,497	111,602	47,398	159,000
All goods	124,805	106,588	231,393	141,002	115,703	256,705	154,237	109,491	263,728

[r]Revised. NA Not available.
[1]Included under "Other and unspecified: Ores."
[2]Included under "Other and unspecified: Metals."
[3]Reported simply as "Tungsten," but believed to consist mainly of tungsten concentrates, with a small amount of metal included.
[4]Included under "Fertilizer materials: Other and unspecified."
[5]Total as reported in source publication. Suez Canal Authority Annual Report 1984.
[6]Included under "Petroleum: Other and unspecified."

Table 12.—Nonferrous metal prices in the United States

(Average cents per pound unless otherwise specified)

Year and month	Aluminum[1]	Copper[2]	Lead[3]	Zinc[4]	Tin[5]	Silver[6]	Nickel[7]	Cadmium[8]	Cobalt[9]
1980	169.566	[r]101.416	42.456	37.428	7.734	20.632	3.415	2.843	25.00
1981	76.000	[r]83.744	36.531	44.555	6.554	10.519	3.429	1.870	([10])
1982	76.000	[r]72.909	25.542	38.473	5.869	7.947	3.200	1.113	12.50
1983	77.667	[r]77.861	21.677	41.386	6.013	11.441	3.200	1.129	12.50
1984:									
January	81.000	67.392	25.124	49.216	5.690	8.180	3.200	1.250	12.50
February	81.000	69.348	24.073	50.607	5.750	9.130	3.200	1.250	12.50
March	81.000	73.911	25.030	51.068	5.820	9.650	3.200	1.500	12.50
April	81.000	75.988	26.431	51.902	5.840	9.220	3.200	2.250	12.50
May	81.000	70.829	25.372	52.773	5.860	8.970	3.200	2.250	12.50
June	81.000	60.409	28.161	52.452	5.880	8.740	3.200	2.250	12.50
July	81.000	63.002	30.509	49.515	5.750	7.420	3.200	2.027	12.50
August	81.000	63.135	28.238	47.845	5.660	7.610	3.200	1.550	12.50
September	81.000	62.008	24.175	46.416	5.560	7.260	3.200	1.550	12.50
October	81.000	60.639	22.328	44.190	5.400	7.320	3.200	1.550	12.50
November	81.000	64.250	25.251	43.603	5.530	7.490	3.200	1.487	12.50
December	81.000	62.138	21.888	43.624	5.400	6.690	3.200	1.400	11.70
Average	81.000	66.757	25.548	48.601	5.680	8.140	3.200	1.693	12.43

[r]Revised.
[1]U.S. list price, North American producer.
[2]Electrolytic, f.o.b. refinery.
[3]Refined lead, nationwide.
[4]Prime Western, f.o.b. East St. Louis.
[5]U.S. dollars per pound, New York dealer.
[6]U.S. dollars per troy ounce, 0.999 fine, New York.
[7]U.S. dollars per pound, major producer cathode.
[8]U.S. dollars per pound, producer.
[9]U.S. dollars per pound, shot-cathode, 250-kilogram lots.
[10]Price was $25 in Jan.-Feb. 1981; $20 in Mar.-Aug. 1981, inclusive; and suspended from Sept. 1981 through Jan. 1982, inclusive.

Source: American Bureau of Metal Statistics Inc.

Table 13.—Nonferrous metal prices in the United Kingdom[1]

(Average U.S. cents per pound unless otherwise specified)

Year and month	Aluminum[2]	Copper[3]	Gold[4]	Lead[5]	Silver[6]	Tin[7]	Zinc[8]
1980	80.753	99.297	612.562	41.213	20.872	7.631	34.482
1981	57.274	79.488	459.715	33.296	10.524	6.500	38.932
1982	44.966	67.192	375.792	24.656	7.920	5.810	33.734
1983	65.342	72.153	424.180	19.273	11.454	5.913	34.727
1984:							
January	70.218	62.402	370.888	18.013	8.200	5.544	43.411
February	67.764	64.855	385.921	18.331	9.110	5.610	45.260
March	66.002	68.094	394.264	20.823	9.650	5.637	47.162
April	62.068	69.517	381.364	21.831	9.250	5.666	45.519
May	58.484	64.449	377.402	20.535	8.950	5.723	45.375
June	57.799	61.932	377.665	21.947	8.770	5.756	42.673
July	52.729	60.365	347.468	22.368	7.450	5.655	38.698
August	51.519	60.669	347.680	21.182	7.600	5.583	37.807
September	45.802	58.675	341.093	18.199	7.240	5.487	39.313
October	46.625	57.743	340.174	18.673	7.290	5.345	38.092
November	52.247	61.011	341.177	19.964	7.500	5.457	38.667
December	49.676	59.922	320.159	18.828	6.670	5.334	38.874
Average	56.526	62.562	360.438	20.117	8.140	5.566	40.459

[1]London Metal Exchange.
[2]Unalloyed ingot, 99.5%.
[3]Electrolytic wirebars, monthly average settlement price.
[4]U.S. dollars per troy ounce, final price.
[5]Refined lead, monthly average cash price.
[6]U.S. dollars per troy ounce, 0.999 fine, spot price.
[7]U.S. dollars per pound, Straits tin.
[8]Monthly average cash price: 1980-Aug. 1984 inclusive, slab; Sept. 1984-Dec. 1984, high grade.

Source: American Bureau of Metal Statistics Inc.

Table 14.—Nonferrous metal prices in Canada

(Average U.S. cents per pound unless otherwise specified)

Year and month	Copper[1]	Lead[2]	Silver[3]	Zinc[4]
1980	100.596	42.174	20.637	37.453
1981	83.973	37.183	10.528	44.778
1982	72.395	26.279	7.951	39.437
1983	75.936	21.929	11.458	42.329
1984:				
January	64.311	25.099	8.187	50.465
February	66.258	24.038	7.313	50.881
March	69.917	24.648	9.657	52.016
April	70.393	25.789	9.223	52.360
May	65.339	25.494	8.965	51.762
June	62.938	27.498	8.745	51.161
July	60.486	31.098	7.377	49.479
August	61.286	28.420	7.616	48.524
September	59.298	24.864	7.267	46.616
October	58.331	23.884	7.320	44.924
November	61.669	25.320	7.480	44.996
December	60.156	23.504	6.708	44.883
Average	63.365	25.805	7.988	49.006

[1]For 1980-82, Canadian domestic producer delivered price for cathode; 1983-84, Hudson Bay Mining and Smelting Co. Ltd. delivered price for cathode.
[2]Producers' price, carload quantities, pig lead, Cominco Ltd.
[3]U.S. dollars per troy ounce.
[4]Producers' price, carload quantities, regular high grade, Cominco Ltd.

Source: American Bureau of Metal Statistics Inc.

Table 15.—Leading world producers of bauxite[1]

(Thousand metric tons, gross weight)

Country	1980	1981	1982	1983[p]	1984[e]
Australia	[r]27,179	[r]25,441	23,625	24,540	29,300
Guinea[e]	11,862	11,112	11,827	[r]12,421	[2]13,160
Jamaica	12,054	11,682	8,361	7,683	[2]8,734
U.S.S.R.[e 3]	6,180	6,180	6,180	[r]6,185	6,185
Brazil	5,538	5,770	6,289	7,199	5,239
Suriname	4,646	4,100	3,059	2,886	[2]3,454
Yugoslavia	3,138	3,249	3,668	3,500	3,347
Hungary	2,950	2,914	2,627	2,917	[2]2,994
Greece	3,286	3,216	2,853	2,455	2,800
India	1,785	1,923	1,854	1,923	1,994
China[e]	1,500	1,500	1,500	[r]1,600	1,600
Guyana	1,844	1,681	1,783	1,791	[2]1,556
France	1,921	[r]1,827	1,662	1,716	1,528
Total	[r]83,883	[r]80,595	75,288	76,816	81,891
Other	[r]6,917	6,411	4,436	3,630	4,359
Grand total	[r]90,800	[r]87,006	79,724	80,446	86,250

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available as of July 2, 1985.
[2]Reported figure.
[3]Includes bauxite equivalent of nepheline syenite concentrates and alunite ore (produced in the U.S.S.R. only).

Table 16.—Leading world producers of aluminum[1]

(Thousand metric tons)

Country	1980	1981	1982	1983[p]	1984[e]
United States	4,654	4,489	3,274	3,353	[2]4,099
U.S.S.R.[e]	1,760	1,800	1,875	2,000	2,100
Canada	1,068	1,116	1,065	1,091	1,200
Norway	653	633	637	715	[2]761
Australia	303	379	381	478	758
Germany, Federal Republic of	731	729	723	743	750
Brazil	261	256	299	401	[2]412
Spain	386	397	367	358	[2]381
China[e]	360	360	[r]380	380	380
France	432	436	390	361	[2]342
Venezuela	328	314	274	[e]332	310
Yugoslavia	161	173	246	284	[2]302
United Kingdom	374	339	241	256	[2]287
Japan	1,091	771	351	252	286
India	185	213	217	204	270
Netherlands	259	262	251	235	248
Romania	241	251	208	223	244
New Zealand	155	154	167	220	[2]243
Total	13,402	13,072	11,346	11,886	13,373
Other	[r]1,981	[r]2,011	2,109	2,059	2,148
Grand total	[r]15,383	[r]15,083	13,455	13,945	15,521

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through May 28, 1985.
[2]Reported figure.

Table 17.—Leading world producers of chromite[1]

(Thousand metric tons, gross weight)

Country	1980	1981	1982	1983[p]	1984[e]
South Africa, Republic of	3,414	2,870	2,164	2,232	[3]3,006
U.S.S.R.[e]	[r]2,900	[r]2,900	[r]2,940	[r]2,940	3,000
Albania[e]	760	[r]870	[r]870	900	870
Turkey	[r]273	423	407	512	[3]608
Zimbabwe	[r]553	536	432	432	450
India	[r]319	335	339	422	440
Brazil	313	[r]237	276	276	280
Philippines	496	439	322	267	270
Finland	362	412	345	246	254
Total	[r]9,390	[r]9,022	8,095	8,227	9,178
Other	[r]512	[r]253	245	289	322
Grand total	[r]9,902	[r]9,275	8,340	8,516	9,500

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through July 2, 1985.
[2]Reported figure.

Table 18.—Leading world producers of mine copper[1]

(Thousand metric tons, Cu content of ore)

Country	1980	1981	1982	1983[p]	1984[e]
Chile[2]	1,068	1,081	1,242	1,257	[3]1,290
United States[2]	1,181	1,538	1,147	1,038	[3]1,091
Canada[2]	716	691	612	653	712
U.S.S.R.[e 2]	[r]590	[r]570	[r]560	[r]570	590
Zambia	596	588	568	574	[3]541
Zaire	540	555	519	535	540
Peru[2]	367	342	357	322	364
Poland	346	[r]315	338	349	360
Australia	244	231	245	262	236
Philippines	305	302	292	273	[3]226
South Africa, Republic of	201	209	189	205	198
Mexico	[r]184	[r]233	229	196	180
China[e]	[r]165	[r]170	[r]175	[r]175	180
Papua New Guinea	147	165	170	202	[3]164
Total	[r]6,650	[r]6,990	6,643	6,611	6,672
Other	[r]754	[r]824	940	1,014	1,166
Grand total	[r]7,404	[r]7,814	7,583	7,625	7,838

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through June 25, 1985.
[2]Recoverable.
[3]Reported figure.

Table 19.—Leading world producers of gold[1]

(Thousand troy ounces)

Country	1980	1981	1982	1983[p]	1984[e]
South Africa, Republic of	21,669	21,121	21,355	21,847	[2]21,905
U.S.S.R.[e]	8,300	8,425	8,550	8,600	8,650
Canada	1,627	1,673	2,081	2,363	2,614
United States	970	1,379	1,466	1,956	[2]2,059
China[e]	225	1,700	1,800	[r]1,850	1,900
Brazil[e]	1,300	1,200	1,500	[r]1,750	1,750
Australia	548	591	867	984	1,200
Papua New Guinea	452	540	564	582	835
Philippines	644	753	834	812	[2]773
Colombia	510	529	473	439	735
Chile	220	400	544	571	560
Zimbabwe	368	371	426	453	470
Total	36,833	38,682	40,460	42,207	43,451
Other	[r]2,346	[r]2,575	2,623	2,675	2,584
Grand total	[r]39,179	[r]41,257	43,083	44,882	46,035

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through June 4, 1985.
[2]Reported figure.

Table 20.—Leading world producers of iron ore, iron ore concentrates, and iron ore agglomerates[1]

(Thousand metric tons, gross weight)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	244,713	242,417	244,411	245,200	247,000
Brazil	114,732	[r]99,499	93,899	89,200	90,000
Australia	95,534	84,661	87,694	71,625	90,000
China[e]	68,000	66,000	69,000	71,000	75,000
United States	70,730	74,348	36,002	38,165	[2]50,459
India	41,936	[r]41,351	40,902	38,800	[2]41,026
Canada	48,754	51,985	35,592	30,326	37,785
South Africa, Republic of	26,312	28,319	24,554	16,605	[2]24,496
Sweden	27,184	23,225	16,143	13,212	[2]17,556
Liberia	18,187	19,704	18,165	14,937	[2]15,100
France	28,981	21,598	19,391	15,966	[2]15,030
Venezuela	16,102	15,531	11,200	9,715	12,723
Mauritania	8,936	8,704	8,255	7,385	[2]9,527
Mexico	7,631	8,020	8,155	8,040	8,555
Korea, North[e]	8,000	8,000	8,000	8,000	8,000
Spain	9,227	8,565	8,270	7,449	[2]7,260
Chile	8,270	7,743	5,805	5,174	[2]5,587
Yugoslavia	[r]4,478	4,794	5,106	5,018	[2]5,321
Total	[r]847,707	[r]814,464	740,544	695,817	760,425
Other	[r]43,422	[r]42,145	39,148	39,541	39,242
Grand total	[r]891,129	[r]856,609	779,692	735,358	799,667

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through July 2, 1985.
[2]Reported figure.

Table 21.—Leading world producers of crude steel[1]

(Thousand metric tons)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	147,941	148,445	147,165	152,514	154,000
Japan	111,395	101,676	99,548	97,179	[2]105,586
United States	101,455	109,613	67,655	76,762	[2]83,940
China	37,120	35,600	37,160	39,950	43,370
Germany, Federal Republic of	43,838	41,610	35,880	35,729	[2]39,389
Italy	26,501	24,777	23,981	21,674	[2]24,026
France	23,176	21,258	18,416	17,623	[2]18,996
Brazil	15,339	13,230	12,990	14,659	[2]18,385
Poland	19,485	15,719	14,795	16,236	16,500
United Kingdom	11,278	15,576	13,704	14,986	[2]15,121
Czechoslovakia	15,225	15,270	14,992	15,024	[2]14,831
Canada	15,887	14,811	11,762	12,828	[2]14,715
Spain	12,586	12,912	13,160	12,731	[2]13,484
Korea, Republic of	8,558	10,754	11,753	11,915	[2]13,033
Romania	13,175	13,025	13,055	12,593	13,000
Belgium	[r]12,425	[r]12,379	9,916	10,157	[2]11,292
India	[r e]9,423	[e]10,380	10,715	10,305	10,084
South Africa, Republic of	9,068	9,004	8,271	7,004	[2]7,827
Mexico	7,156	[r]7,663	7,056	6,978	[2]7,543
German Democratic Republic	7,308	7,467	7,169	7,219	7,500
Total	[r]648,339	[r]641,169	579,143	594,066	632,622
Other	[r]68,173	[r]66,083	64,911	68,521	73,730
Grand total	[r]716,512	[r]707,252	644,054	662,587	706,352

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Steel ingots and castings. Table includes data available through June 18, 1985.
[2]Reported figure.

Table 22.—Leading world producers of mine lead[1]

(Thousand metric tons, Pb content of ore)

Country	1980	1981	1982	1983[p]	1984[e]
Australia	398	388	455	481	446
U.S.S.R.[e]	420	425	430	435	440
United States[2]	[r]573	[r]459	530	466	333
Canada	297	332	341	252	[3]259
Peru	189	193	176	205	196
Mexico[3]	[r]147	[r]149	170	184	195
China[e]	160	160	160	160	160
Morocco	115	116	104	98	[3]101
Yugoslavia	122	119	[e]115	[r e]114	100
Total	[r]2,421	[r]2,341	2,481	2,395	2,230
Other	[r]1,049	[r]1,029	961	971	960
Grand total	[r]3,470	[r]3,370	3,442	3,366	3,190

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through June 18, 1985.
[2]Recoverable.
[3]Reported figure.

Table 23.—Leading world producers of manganese ore[1]

(Thousand metric tons, gross weight)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	9,750	9,150	9,821	9,876	10,100
South Africa, Republic of	5,695	5,040	5,217	2,886	[2]3,049
Brazil	2,281	2,042	2,341	2,092	2,200
Gabon	2,147	1,488	1,512	1,867	[2]2,119
Australia	1,999	1,411	1,123	1,353	1,700
China[e]	1,600	1,600	1,600	1,600	1,600
India	1,692	1,526	1,448	1,320	1,300
Mexico	447	578	509	350	518
Ghana	r250	223	160	173	120
Japan	80	87	78	77	62
Hungary	83	71	83	59	60
Morocco	131	110	97	74	57
Total	r26,155	23,326	23,989	21,727	22,885
Other	r233	r166	137	130	138
Grand total	r26,388	r23,492	24,126	21,857	23,023

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through June 4, 1985.
[2]Reported figure.

Table 24.—Leading world producers of mine nickel[1]

(Thousand metric tons)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.[e]	154	158	165	170	175
Canada	185	160	89	122	174
Australia	74	74	88	77	75
Indonesia	53	49	46	49	62
New Caledonia	87	78	60	40	41
Cuba[e]	37	39	36	r38	32
South Africa, Republic of	26	26	[e]22	r [e]20	25
Dominican Republic	16	19	6	21	[2]24
Total	632	603	512	537	608
Other	r147	r127	100	120	137
Grand total	r779	r730	612	657	745

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through May 7, 1985.
[2]Reported figure.

Table 25.—Leading world producers of mine tin[1]

(Metric tons, Sn content of ore)

Country	1980	1981	1982	1983[p]	1984[e]
Malaysia	61,404	59,938	52,342	41,367	[2]41,307
U.S.S.R.[e]	r34,000	r34,000	r35,000	r35,000	36,000
Thailand	33,685	31,474	26,109	19,943	[2]21,920
Indonesia	32,527	35,392	33,806	26,553	21,530
Bolivia	27,291	29,830	26,773	25,278	[2]21,100
Brazil	r6,377	r8,253	9,293	13,418	[2]16,021
China[e]	14,600	15,000	15,000	15,000	15,000
Australia	11,588	12,267	12,126	9,275	9,300
United Kingdom	2,982	3,869	4,208	4,025	4,600
Zaire	3,159	3,321	3,144	r [e]3,000	3,000
Peru	1,077	1,519	1,672	2,368	2,990
South Africa, Republic of	2,913	2,811	3,035	2,668	2,200
Total	r231,603	r237,674	222,508	197,895	194,968
Other	r13,123	r14,265	13,544	12,758	12,874
Grand total	r244,726	r251,939	236,052	210,653	207,842

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through June 11, 1985.
[2]Reported figure.

Table 26.—Leading world producers of mine zinc[1]

(Thousand metric tons, Zn content of ore)

Country	1980	1981	1982	1983[p]	1984[e]
Canada	1,059	1,096	1,036	988	[2]1,213
U.S.S.R.[e]	785	790	800	805	810
Australia	495	518	665	703	634
Peru	488	499	507	576	558
Mexico	236	207	242	266	289
United States	[r]348	[r]343	326	297	[2]278
Japan	238	242	251	256	253
Spain	183	182	167	168	226
Sweden	167	181	185	203	[2]206
Ireland	229	120	167	186	206
China[e]	160	160	160	160	160
Poland	188	[r]146	145	149	153
Korea, North[e]	140	140	140	140	140
South Africa, Republic of	79	87	92	110	[2]106
Germany, Federal Republic of	121	111	106	114	[2]92
Yugoslavia	95	89	84	87	87
Brazil	[r]67	[r]71	71	73	72
Greenland	86	80	80	73	[2]71
Total	[r]5,164	[r]5,062	5,224	5,354	5,554
Other	[r]790	[r]783	830	806	865
Grand total	[r]5,954	[r]5,845	6,054	6,160	6,419

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through July 9, 1985.
[2]Reported figure.

Table 27.—Leading world producers of hydraulic cement[1]

(Thousand metric tons)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	125,049	127,169	123,681	128,156	130,000
China	79,860	84,000	94,072	108,250	121,080
Japan	87,958	[r]84,827	80,688	80,891	[2]78,851
United States (including Puerto Rico)	69,589	66,163	58,369	64,725	[2]71,395
Italy	41,772	41,553	39,728	39,217	40,000
Germany, Federal Republic of	[r]34,186	[r]31,498	30,078	30,466	[2]31,500
Spain (including Canary Islands)	28,010	28,571	29,569	30,637	[2]30,000
India	17,700	20,760	22,498	25,356	[2]29,030
Brazil	27,193	26,051	25,644	20,870	25,000
France	29,104	28,229	26,150	24,352	24,000
Korea, Republic of	[r]15,612	15,617	17,887	21,282	20,413
Mexico	[r]16,243	[r]17,978	19,298	17,068	18,000
Poland	18,443	[r]14,226	16,100	16,200	16,700
Turkey	[r]12,875	15,043	15,778	13,596	15,738
Taiwan	14,062	14,342	13,432	14,810	[2]14,234
Romania	15,611	14,746	14,995	13,968	[2]14,016
United Kingdom	[r]14,805	[r]12,729	12,962	12,430	12,700
German Democratic Republic	12,440	12,204	11,721	11,782	11,800
Czechoslovakia	[r]10,546	10,646	10,325	10,498	10,530
Iran[e]	8,000	8,000	9,500	10,000	10,500
Total	[r]679,058	[r]674,352	672,475	694,554	725,487
Other	[r]204,048	[r]212,132	209,761	220,268	234,969
Grand total	[r]883,106	[r]886,484	882,236	914,822	960,456

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through July 2, 1985.
[2]Reported figure.

Table 28.—Leading world producers of diamond[1]

(Thousand carats)

Country	1980	1981	1982	1983[p]	1984[e]
Zaire	10,235	9,000	[e]9,000	11,982	[2]18,459
Botswana	5,101	4,961	7,769	10,731	12,914
U.S.S.R.[e]	10,850	10,600	10,600	10,700	10,700
South Africa, Republic of	8,520	9,526	9,154	10,311	10,143
Australia	48	205	557	6,155	5,690
Angola	1,480	1,400	1,225	1,034	1,000
China[e]	[2]900	[2]950	[r]1,000	[r]1,000	1,000
Namibia	1,560	1,248	1,014	983	930
Total	[r]38,694	[r]37,890	40,319	52,876	60,836
Other	4,283	3,717	3,048	2,943	2,994
Grand total	[r]42,977	[r]41,607	43,367	55,819	63,830

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Gem and industrial grades undifferentiated. Table includes data available through May 28, 1985.
[2]Reported figure.

Table 29.—Leading world producers of nitrogen in ammonia[1]

(Thousand metric tons, N content)

Country	1980	1981	1982	1983[p]	1984[p]
U.S.S.R.	12,600	12,900	14,000	14,500	[e]15,000
China[e]	9,990	12,193	12,711	[r]13,800	13,970
United States	[r]14,736	[r]14,272	11,820	10,248	12,074
India[2]	2,221	3,193	3,469	3,525	3,715
Canada	2,096	2,176	2,062	2,374	2,872
Romania	2,248	2,381	2,587	2,600	[e]2,650
France[e]	2,085	[r]2,270	[r]2,000	1,900	2,350
Netherlands	1,874	1,814	1,655	1,747	2,318
Germany, Federal Republic of	2,044	1,962	1,570	1,703	1,964
United Kingdom	1,633	1,780	1,716	1,720	1,836
Mexico	1,548	[r]1,795	2,029	1,936	1,773
Japan	2,110	1,833	1,652	1,545	1,687
Indonesia	938	920	1,028	1,149	1,660
Poland	1,478	1,389	1,423	1,425	1,542
Italy	1,397	1,207	1,046	1,060	1,490
German Democratic Republic	1,182	1,205	1,170	1,211	[e]1,200
Total	[r]60,180	[r]63,290	61,938	62,443	68,101
Other	[r]13,455	[r]13,339	13,279	14,941	16,174
Grand total	[r]73,635	[r]76,629	75,217	77,384	84,275

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through May 14, 1985.
[2]Data given are for years beginning Apr. 1 of that stated.

Table 30.—Leading world producers of phosphate rock[1]

(Thousand metric tons, gross weight)

Country	1980	1981	1982	1983[p]	1984[e]
United States	54,415	53,624	37,414	42,573	[2]49,197
U.S.S.R.[e]	[r]30,300	[r]30,700	[r]31,300	[r]31,600	31,900
Morocco[3]	18,824	18,562	17,754	20,106	[2]21,245
China[e]	10,726	11,500	11,720	12,500	11,800
Jordan	3,911	4,244	4,390	4,749	[2]6,263
Tunisia	4,582	4,596	4,196	5,924	[2]5,346
Brazil	2,612	3,238	2,732	3,208	3,855
Israel	2,307	1,919	2,148	2,969	[2]3,312
Togo	2,933	2,215	2,800	2,081	2,696
South Africa, Republic of	3,185	2,718	3,173	2,742	[2]2,585
Total	[r]133,795	[r]133,316	117,627	128,452	138,199
Other	[r]10,398	[r]9,771	9,708	10,813	12,372
Grand total	[r]144,193	[r]143,087	127,335	[r]139,265	150,571

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Includes only phosphate rock; Thomas slag and guano are excluded. Table includes data available through Apr. 19, 1985.
[2]Reported figure.
[3]Includes output from Western Sahara.

Table 31.—Leading world producers of marketable potash[1]

(Thousand metric tons, K_2O equivalent)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	8,064	8,449	8,079	9,294	9,500
Canada (sales)	7,532	6,549	5,309	6,938	[2]7,685
German Democratic Republic	3,422	3,460	3,434	3,431	3,450
Germany, Federal Republic of	2,737	[r]2,591	2,056	2,419	2,280
United States	2,239	2,156	1,784	1,429	[2]1,564
France	1,894	1,831	1,704	1,536	1,500
Israel	797	839	1,004	[e]1,000	1,100
Total	26,685	[r]25,875	23,370	26,047	27,079
Other	1,172	1,204	1,295	1,379	1,559
Grand total	27,857	[r]27,079	24,665	27,426	28,638

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through Apr. 23, 1985.
[2]Reported figure.

Table 32.—Leading world producers of salt[1]

(Thousand metric tons)

Country	1980	1981	1982	1983[p]	1984[e]
United States (including Puerto Rico)	36,630	35,303	34,392	31,393	[2]34,803
U.S.S.R.[e]	14,600	15,200	15,800	16,200	16,500
China	17,280	18,320	16,384	[r e]16,100	16,000
Germany, Federal Republic of	11,396	12,541	10,978	10,402	11,200
Canada	7,029	7,240	7,940	8,602	[2]10,294
India	8,008	8,932	7,042	7,013	7,500
France	7,103	6,636	6,703	6,951	7,130
United Kingdom	7,154	6,720	7,637	6,311	6,500
Mexico	6,575	7,953	5,561	5,703	6,000
Australia	5,665	[r]6,716	4,811	[r e]5,000	5,000
Romania	5,056	[r]5,033	4,756	4,596	4,500
Italy[e]	5,297	4,574	4,605	[r]4,554	4,255
Brazil	3,838	3,605	3,724	[3]4,187	4,250
Netherlands	3,464	3,578	3,191	3,124	3,650
Poland	4,533	4,271	3,856	[r e]3,330	3,600
German Democratic Republic	3,128	3,112	[r e]3,115	[r e]3,126	3,105
Spain	3,509	3,693	3,289	3,158	3,100
Turkey	1,179	1,396	1,314	[e]1,400	1,400
Japan	1,112	[r]1,002	966	1,200	1,200
Total	[r]152,556	[r]155,825	146,064	142,650	149,987
Other	[r]16,322	[r]15,813	17,159	16,618	17,154
Grand total	[r]168,878	[r]171,638	163,223	159,268	167,141

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through June 11, 1985.
[2]Reported figure.
[3]Sales.

Table 33.—Leading world producers of elemental sulfur[1]

(Thousand metric tons)

Country	1981				1982			
	Native	From pyrites	Byprod-uct	Total	Native	From pyrites	Byprod-uct	Total
United States	[2]6,348	307	5,490	12,145	4,210	265	5,312	9,787
U.S.S.R.[e]	[3]2,800	3,600	3,290	9,690	[3]2,700	[r]3,500	3,340	[r]9,540
Canada	--	[e]10	6,789	6,799	--	[e]9	6,272	6,281
Poland	[e 3]4,773	--	[e]350	5,123	[e 3]4,935	--	[e]350	5,285
China[e]	200	1,800	300	2,300	200	1,800	300	2,300
Japan	--	293	2,316	2,609	--	276	2,319	2,595
Mexico	[2]1,652	--	[e]526	[e]2,178	[2]1,391	--	[e]525	[e]1,916
France	--	--	2,042	2,042	--	--	2,061	2,061
Germany, Federal Republic of	--	213	[e]1,519	[e]1,732	--	229	[e]1,592	[e]1,821
Spain	--	1,118	150	[e]1,268	--	1,029	[e]138	[e]1,167
Saudi Arabia[e]	NA	--	600	600	--	--	900	900
South Africa, Republic of	--	502	127	629	--	465	160	625
Iraq[e]	[2 4]200	--	[4]40	[4]240	[2]300	--	40	340
Finland	--	184	[e]264	[e]448	--	177	[e]280	[e]457
Italy	20	261	[e]230	511	10	269	[e]210	489
Yugoslavia	--	274	[e]204	[e]478	--	340	[e]204	[e]544
Sweden	--	[r]202	[e]168	[r]370	--	204	[r e]153	357
German Democratic Republic[e]	--	10	350	360	--	--	360	360
Romania[e]	--	300	150	450	--	200	150	350
Brazil	--	44	119	163	--	54	130	184
Bulgaria[e]	--	200	70	270	--	200	70	270
Norway	--	[r]210	[e]46	[r e]256	--	216	[e]46	[r e]262
Belgium[e]	--	--	270	270	--	--	[r]270	[r]270
Korea, North[e]	--	225	30	255	--	200	30	230
Turkey	28	29	120	177	29	30	126	185
Netherlands[e]	--	--	145	145	--	--	165	165
Greece	--	[e]60	11	[e]71	--	[e]60	105	[e]165
India	--	23	[e]96	[e]119	--	22	[r e]105	[r e]127
Total	16,021	[r]9,865	[r]25,812	[r]51,698	13,775	9,545	25,713	49,033
Other	[r]219	[r]333	[r]1,122	[r]1,674	166	350	1,204	1,720
Grand total	[r]16,240	[r]10,198	[r]26,934	[r]53,372	13,941	9,895	26,917	50,753

See footnotes at end of table.

Table 33.—Leading world producers of elemental sulfur[1]—Continued

(Thousand metric tons)

Country	1983[p]				1984[e]			
	Native	From pyrites	Byproduct	Total	Native	From pyrites	Byproduct	Total
United States	[3]3,202	W	6,088	9,290	[3 4]4,193	W	[4]6,459	[4]10,652
U.S.S.R.[e]	[3]2,600	[r]3,400	3,390	[r]9,390	[3]2,600	3,300	3,440	9,340
Canada	--	[5]	6,568	6,573	--	7	6,602	6,609
Poland	[r e 3]4,999	--	[e]350	5,349	[3]5,000	--	350	5,350
China[e]	200	[r]2,300	[r]350	[r]2,850	200	2,100	350	2,650
Japan	--	272	2,341	2,613	--	260	2,312	2,572
Mexico	[3]1,225	--	[r e]477	[r e]1,702	[3]1,364	--	561	1,925
France	--	--	1,931	1,931	--	--	1,900	1,900
Germany, Federal Republic of	--	[5]	[r e]1,322	[r e]1,322	--	--	1,490	1,490
Spain	--	1,073	[e]131	[r e]1,204	--	1,100	130	1,230
Saudi Arabia[e]	--	--	[r]695	[r]695	--	--	720	720
South Africa, Republic of	--	474	157	631	--	440	150	590
Iraq[e]	[3]300	--	40	340	[3]500	--	70	570
Finland	--	224	[r e]275	[r e]499	--	230	270	500
Italy	5	192	[e]210	407	[4]8	282	200	490
Yugoslavia	--	357	[e]183	[e]540	--	320	163	483
Sweden	--	206	[r e]160	366	--	200	160	360
German Democratic Republic[e]	--	--	360	360	--	--	350	350
Romania[e]	--	200	150	350	--	200	150	350
Brazil	[3]1	55	260	316	NA	NA	NA	NA
Bulgaria[e]	--	200	70	270	--	200	70	270
Norway	--	220	[e]50	[r e]270	--	200	50	250
Belgium[e]	--	--	250	250	--	--	240	240
Korea, North[e]	--	200	30	230	--	200	30	230
Turkey	[e]31	[e]25	132	188	35	30	130	195
Netherlands[e]	--	--	[r]205	[r]205	--	--	195	195
Greece	--	[e]60	[r e]120	[r e]180	--	60	125	185
India	--	25	[r e]114	[r e]139	--	27	120	147
Total	12,563	9,488	26,409	48,460	13,900	9,156	26,787	49,843
Other	167	399	1,289	1,855	172	402	1,467	2,041
Grand total	12,730	9,887	27,698	50,315	14,072	9,558	28,254	51,884

[e]Estimated. [p]Preliminary. [r]Revised. NA Not available. W Withheld to avoid disclosing company proprietary data.

[1]Includes all recorded production of sulfur, regardless of the form in which it is recovered. Thus, it includes elemental sulfur, whether mined by conventional methods or by the Frasch process, as well as (1) elemental sulfur and the S content of compounds such as H_2S, SO_2, and H_2SO_4 recovered as a principal product of pyrite mining and as a byproduct of the recovery of crude oil and natural gas and as a byproduct of petroleum refining, coal treatment, and metal smelting and/or refining; and (2) sulfur recovered from tar sands, spent oxides, and other miscellaneous sources. Table includes data available through Aug. 1985.

[2]Entirely Frasch process sulfur.

[3]Includes Frasch process sulfur as follows, in thousand metric tons: Poland (estimated): 1981—4,295, 1982—4,441, 1983—4,499 (revised); and 1984—4,500; the U.S.S.R. (estimated): 1981—800, 1982—800, 1983—800, and 1984—800; and total of individually listed countries and grand total: 1981—13,295, 1982—11,142, 1983—9,807, and 1984—11,357.

[4]Reported figure.

[5]Revised to zero.

Table 34.—Leading world producers of coal (all grades)[1]

(Million metric tons)

Country	1981			1982			1983[p]			1984[e]		
	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total
United States	46	701	747	48	712	760	52	658	710	[2]57	[2]750	[2]807
China	(3)	621	621	(3)	651	651	(3)	715	715	(3)	[2]772	[2]772
U.S.S.R	160	544	704	163	555	718	158	558	716	[2]158	[2]554	[2]712
German Democratic Republic	267	--	267	276	--	276	278	--	278	300	--	300
Poland	36	163	199	38	189	227	43	191	234	50	192	242
Germany, Federal Republic of	131	88	219	127	89	216	124	82	206	[2]127	[2]79	[2]206
South Africa, Republic of	--	130	130	--	144	144	--	145	145	--	162	162
Australia	33	111	144	38	119	157	34	120	154	[2]35	[2]125	[2]160
India	6	125	131	7	128	135	7	136	143	8	146	154
Czechoslovakia	96	27	123	99	27	126	102	26	128	[2]103	[2]26	[2]129
Yugoslavia	52	(4)	52	54	(4)	54	58	(4)	58	[2]65	(2 4)	[2]65
Canada	7	33	40	7	35	42	8	37	45	[2]10	[2]48	[2]58
United Kingdom	--	[r]127	[r]127	--	125	125	--	119	119	--	52	52
Korea, North[e]	(4)	45	45	(4)	45	45	(4)	45	45	(4)	45	45
Spain	21	14	35	24	15	39	25	15	40	[2]24	16	40
Romania	27	[e]8	35	31	[e]8	39	[e]31	9	40	30	9	39
Bulgaria	29	(4)	29	32	(4)	32	32	(4)	32	34	(4)	34
Greece	27	--	27	27	--	27	31	--	31	32	--	32
Hungary	23	3	26	23	3	26	22	3	25	[2]22	3	25
France	3	19	22	3	17	20	3	17	20	2	17	19
Total	964	[r]2,759	[r]3,723	997	2,862	3,859	1,008	2,876	3,884	1,057	2,996	4,053
Other	[r]30	[r]91	[r]121	34	94	128	37	96	133	42	97	139
Grand total	[r]994	[r]2,850	[r]3,844	1,031	2,956	3,987	1,045	2,972	4,017	1,099	3,093	4,192

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through Oct. 10, 1985.
[2]Reported figure.
[3]Output small; included under "Bituminous and anthracite."
[4]Less than 1/2 unit.

Table 35.—Leading world producers of marketed natural gas[1]

(Billion cubic feet)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	[r]15,405	16,430	17,682	18,918	[2]20,730
United States	[r]19,403	[r]19,181	17,758	16,033	[2]17,231
Netherlands	3,211	2,981	2,548	2,707	[2]2,733
Canada	3,068	2,399	2,683	2,465	[2]2,506
Algeria	411	466	1,048	1,581	1,700
United Kingdom	1,317	1,321	1,341	1,472	[2]1,484
Indonesia	696	720	926	1,032	[2]1,367
Mexico	1,129	1,214	1,279	1,274	[2]1,194
Romania	1,199	[e]1,200	[re]1,100	1,100	1,120
Norway	[r]917	[r]924	925	904	[2]970
Germany, Federal Republic of	658	666	569	622	[2]581
Venezuela	589	584	527	508	[2]518
Italy	443	496	512	459	485
Australia	338	401	409	420	446
China	504	450	414	431	438
Total	[r]49,288	[r]49,433	49,721	49,926	53,503
Other	4,484	4,716	4,896	5,179	5,243
Grand total	[r]53,772	[r]54,149	54,617	55,105	58,746

[e]Estimated. [p]Preliminary. [r]Revised.

[1]Comprises all gas collected and utilized as a fuel or a chemical industry raw material as well as that used for gas lift in fields, including gas used in oilfields and/or gasfields as a fuel by producers even though it is not actually sold. Excludes gas produced and subsequently vented to the atmosphere, flared, and/or reinjected to reservoirs. Table includes data available through Oct. 9, 1985.

[2]Reported figure.

Table 36.—Leading world producers of natural gas liquids[1]

(Million 42-gallon barrels)

Country[2]	1980	1981	1982	1983[p]	1984[e]
United States	576	587	566	569	[3]597
Algeria	68	78	105	180	[3]192
U.S.S.R.[e]	127	134	145	[r]155	160
Canada	115	120	117	114	[3]139
Mexico	71	88	[e]95	[e]95	100
Saudi Arabia	135	164	157	[e]125	95
United Arab Emirates (Abu Dhabi, Dubai, Sharjah)[e]	[3]36	40	54	71	68
United Kingdom	[r]12	[r]11	21	30	35
Total	[r]1,140	[r]1,222	1,260	1,339	1,386
Other	[r]132	[r]123	115	130	76
Grand total	1,272	[r]1,345	1,375	1,469	1,462

[e]Estimated. [p]Preliminary. [r]Revised.

[1]Every effort has been made to include only those natural gas liquids produced by natural gas processing plants and to exclude natural gas liquids obtained from field treatment facilities including wellhead separators, because the latter are normally blended with crude oil and thus are included in crude oil output statistics. In some cases, however, sources do not clearly specify whether data presented represent only output of natural gas processing plants or if they include field output. Thus, some of the figures may include field condensate. Table includes data available through Oct. 9, 1985.

[2]In addition to the countries listed, China, Czechoslovakia, the German Democratic Republic, the Federal Republic of Germany, and Italy may also produce natural gas liquids in substantial quantities, but available information is inadequate to make reliable estimates of output levels.

[3]Reported figure.

Table 37.—Leading world producers of crude oil[1]

(Million 42-gallon barrels)

Country	1980	1981	1982	1983[p]	1984[e]
U.S.S.R.	4,434	4,475	4,503	4,528	[2]4,506
United States	3,146	3,129	3,157	3,171	[2]3,250
Saudi Arabia[3]	3,614	3,580	2,366	1,834	[2]1,663
Mexico	708	844	1,002	973	983
United Kingdom	582	[r]649	741	817	[2]893
China	773	739	745	774	[2]836
Iran	550	692	873	892	[2]791
Venezuela	793	768	692	657	[2]658
Canada	523	468	464	495	[2]560
Indonesia	577	585	488	490	[2]517
Nigeria	753	525	472	452	502
United Arab Emirates (Abu Dhabi, Dubai, Sharjah)	624	548	456	409	424
Iraq	969	326	310	[e]400	410
Libya	670	408	[e]418	402	[2]391
Total	18,716	[r]17,736	16,687	16,294	16,384
Other	[r]3,160	[r]2,892	2,833	3,120	3,402
Grand total	[r]21,876	[r]20,628	19,520	19,414	19,786

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through Oct. 9, 1985.
[2]Reported figure.
[3]Includes the country's share of production from the Kuwait-Saudi Arabia Partitioned Zone.

Table 38.—Leading world producers of refined oil[1]

(Million 42-gallon barrels)

Country	1980	1981	1982	1983[p]	1984[e]
United States (including Puerto Rico and Virgin Islands)	5,619	5,358	5,113	4,995	[2]5,186
U.S.S.R.[e]	[r]3,263	[r]3,332	[r]3,393	[r]3,454	3,516
Japan	1,611	1,464	1,337	1,308	[2]1,399
Germany, Federal Republic of	875	752	719	687	[2]682
Italy	[r]719	741	693	649	[2]629
United Kingdom	647	592	590	594	[2]627
France	881	720	617	564	[2]570
China[e]	470	450	475	500	550
Mexico	425	471	462	467	[2]487
Canada	694	696	589	516	[2]481
Saudi Arabia[3]	347	348	338	354	425
Netherlands	[r]394	[r]360	365	402	419
Spain (including Canary Islands)	367	357	337	337	[2]327
Venezuela	341	319	318	323	[2]325
Brazil	[r]405	385	380	305	[2]315
Singapore	262	312	305	306	[2]293
Total	[r]17,320	[r]16,657	16,031	15,761	16,231
Other	4,961	[r]4,808	4,863	5,142	5,204
Grand total	[r]22,281	[r]21,465	20,894	20,903	21,435

[e]Estimated. [p]Preliminary. [r]Revised.
[1]Table includes data available through Oct. 9, 1985.
[2]Reported figure.
[3]Includes the country's share of production from the Kuwait-Saudi Arabia Partitioned Zone.

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